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The issue that started it all
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Palm pilot

When discussing the history of the pocket computer, I do with your feature writers would not have giving the impression that



the only systems/players of significance have been the Palm OS and the Windows CE. Pison was successfully selling DPCC-based, brilliantly designed and featured pocket computers, with a sophisticated and highly

robust OS, well before Palm OS and Windows CE. Until very recently, Pison pocket computers were available [but] were technically competitive with, or ahead of, Palm OS and Windows CE in most respects.

I have a Pison Sixx with approximately three- to four-year-old technology, but there is still nothing on the market of comparable size, weight, and price [but] can equal its performance in all areas, [that] would tempt me to trade up. Further, the Symyx/Epoch technology is still being successfully developed by Nokia whose Nokia 5230 etc. are every bit as good as the best of Palm OS and Windows CE, and in some areas uniquely better. Pison and Nokia products are readily available to Canadians through the Getwest, and deserve more attention. Halting, via email

TCF replies: We've been covering this platform since around the Palm 3, but since the hardware and operating systems decisions went their separate ways, their hasn't been too much to report since the Palm 5 hardware—which we did review.

But you are correct, the Symyx operating system is alive and well to various places.

Firewire at USB 2.0

I have a number of questions regarding the October 3rd lab report on USB 2.0 and FireWire 400-GB

cards. At what maximum speed will a USB 2.0 and FireWire function if I install the card on an old machine, for instance a 480 Mhz Pentium II?

If I install (for example) the Adaptec DuoConnect, with its three FireWire and four USB 2.0 ports, how many of the ports can I use at the same time?

Theodor Scholz

TCF replies: The theoretical throughput of USB 2.0 is 480 megabits per second (Mbps) and FireWire is 400 Mbps. As long as you're plugging them into the same type of card slot, they should have the potential of delivering the same throughput. However, it should be noted that that's possible only if the rest of your system is up to the task. (In other words, if your computer runs very slowly because of the combination of hardware you use, or because there's too much software running in the background, don't count on getting full throughput.)

With the DuoConnect, all of the ports—both internal and external—should be available for use. (Some other cards with both internal and external ports may lock one of your external ports offline if you hook up to an internal port.) Again, as all seven ports here will be sharing the same PCI slot, you may not get full performance out of every single port, especially if the rest of your system is already running more slowly, as above. You would have a maximum of 480 Mbps to share.

amongst the USB devices, and 400 Mbps to share amongst the attached FireWire hardware.

Jargon, what jargon!

I enjoy reading The Computer Paper as I have been revisited with computers since before many of your readers were born. Pardon cliche and creating my cliche to avoid large scale reprinting were second nature to me.

But I find that reading today's computer magazines is like when I read Le Devoir when I am in Montreal. I understand the gist of the article but not the nitty gritty. The language of computers has expanded as rapidly as the technology, if not more widely. These words I am confident you won't find in your Funk and Wagnell's Encyclopedia. Some of the terms are, of course, proprietary names, but after they have been on the market for a week or so they become a lingua franca. I am willing to bet that I am not alone. Admittedly, some of the following expressions I'm familiar with, but a book or a [what] else would really be nice to be able to look them up when I am in doubt. I may be presumptuous but maybe you too might like to check out some of them.

Here are a few terms, expressions and trademarks that are assumed to be the cat, dog, hat, and hat of the industry. I found in the current edition of your publications:

Bluetooth,
Airport,
D.V.I.,
ABI,

VRAM, DVD-RAM, 500MHz, nits (I assume you don't scratch "nits", SMS sound, 48k-equipped, FireWire, GeForce, 50/44C card, SMS sound, GPU, CSS, 54-bit 52 encryption, 3092, RAM security, DHCP server capability, built-in 682 11b, and the differences between USB 1.1 and USB 2.0 are a mystery, etc., etc., etc.

You'd note I have not included Xps, Mite, VGA, XGA, ms, ns, and a number of others I assume I do know, but maybe I only think so.

Obviously, context gives you some idea, but like reading Le Devoir do I really understand what I am reading. You don't publish an English language equivalent do you? In Montreal I can get Le Gazette.

Paul Fiedler

TCF replies: No note on excellent point: perhaps some monthly or online glossary would be helpful.

Hyper-connection

I read your interesting article "Say hello to Hyper Threading" (TCF, January 2003). I am about to purchase a computer with an ASUS motherboard model P4P801, which is Hyper Threading compatible. OS will be Windows XP Professional. I can't afford the new 3.06 GHz processor.

Question: If I choose a 2.4/535 512 Northwood P4 Intel processor instead of the 3.06 GHz, will I still have some performance improvement due to Hyper Threading, or is it better then to use a non-Hyper Threading regular 535 P5B motherboard?

Regards and thanks,

Corneil Scherob

TCF replies: From our understanding, you shouldn't actually receive any benefit from a hyperthreading-enabled motherboard when you're using a non-hyperthreading processor, apart from any advantages added by other newer components associated to the hyperthreading. Your main advantage will be the ability to upgrade to the hyperthreading enabled processor down the road, when it drops in price.

Hope that helps. ☺

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WHAT'S NEW

By TCP Staff

How many times have you been at a boring party and thought, "What the heck, these people are at a 10th-grade high-school 30th-anniversary on the desktop, in tune to the music playing on the PC's virtual jukebox?" Well, someone at Microsoft was listening.

Paul Dancy is just one element of the company's newly released **Final Digital Media Edition** package (www.microsoft.com), which is billed as "the ultimate photo music and movie enhancement

pack for Windows XP."

Other features of the package include **Photo Story**, which allows users to build stories out of photos, adding music, narration, and pan and zoom effects; **Party Mode**, which turns the PC into a jukebox complete with video effects, song and artist displays, and an interactive guestbook; **Audio Recorder**, which records music from cassettes or vinyl records to digital files, with automatic hiss and pop reduction and automatic track splitting;

and an **Audio Converter** to convert those music files into a range of formats.

The software aims to make people even more dependent on their computers, with **Alarm Clock** to wake them up in the morning to music of their choice, and **Sleep Timer**, which will play them to sleep with music that gradually decreases in volume.

The package is US\$19.95 and is available online only initially. It is expected to be available on store shelves where Windows XP is sold, according to Microsoft.

Now that **Palm** handhelds have become ubiquitous, how do the truly geeky distinguish themselves from the rabble? Well, here's one suggestion: not just anyone will load up that bulky with the **Palm Reader eBook** version of **Warrior's Familiar** *Questaries*. The first **Palm Reader** version features the 17th edition of the popular reference, with a searchable database and hyperlinked linking added to the chronological list of more than 23,000 quotations. Sure to be impressive when fired up during cocktail party conversations, it can be downloaded from www.palm.com/palmos.com for US\$29.95.

Your Web site designer might not want you to know this: **Macromedia** (www.macromedia.com), makers of the popular **Dreamweaver** Web site development software, has introduced **Contributor**, which it says "enables anyone to easily update, add, and publish web content to existing Web sites without needing to learn HTML."

Macromedia says the software, which offers integration with **Microsoft Word** and **Excel**, will allow users to edit Web pages as if they were using a word processor, then publish the updated page to the live site. **Contributor** also maintains a history of page changes, allowing users to revert to a previous version of a page.

Macromedia says **Contributor** works with any HTML site, regardless of whether it was built with **Dreamweaver**. It is currently only available for Windows, but a Mac OS X version is in development, according to **Macromedia**. It can be downloaded from the company's Web site for US\$99.

Dreaming of a future in computer animation? **Alias|Wavefront** (www.aliaswavefront.com) is offering self-motivated learners a hand-up with the release of **Maya 4.5 Personal Learning Edition**, available from the company's Web site at no charge.

Spotlight



Splashpower recharges

Tired of bracing your smartphone against the side of your head and charging at your desk? Well, a U.K. based company, **Splashpower** (www.splashpower.com), has a solution with its wireless inductive technology. The system, which comprises a **Splashinductor** wireless recharging platform and a **SplashInductor** receiver module, uses inductive power transfer to recharge any device with no risk of shock or overheating, according to the company.

The **Splashpower** system is similar to one announced recently by **Philips** (www.philips.com) but can recharge devices faster than other inductive systems and is the Mac OS X platform. It is a thin disk **Splashinductor** plug into the wall and can power several devices at once. It is said they are equipped with a **SplashModule**, which is less than 1mm thick and can be customized to fit a device, such as mobile phones, PDAs, MP3 players, and handheld GPS units, according to the company.

Current **Splashpower** is currently focused on bringing its technology to mobile equipment manufacturers, and there is no word on when a consumer-based product might be available.

The software is for non-commercial use only, which is enforced by a special file format and watermarking of images. The latest version allows users to import files of different data types, including files from the commercial version of **Maya 4.5**, including new modeling tools, subdivision surfaces, and integrated 3D paint.

Along with the software, **Alias|Wavefront** offers a Web-based resource center with video tutorials and user forums, as well as a gallery for users to exhibit their creations. □

Just when you thought you'd learned to understand SRS-speak, **Nokia** has introduced new handsets designed to take advantage of MMS (Multimedia Messaging Service) technology, which allows cell phone users to send text with images, video and audio clips. It is the evolution of SRS (Short Message Service), which only allowed for text and requires users to learn complex abbreviated text techniques.

Nokia boasts that the **6100** is the world's first SRS (Enhanced SMS) notes for GSM (Enhanced) handset, which means **Nokia** speaks at up to 140bps, allowing for larger files and faster transfer. It also has in-band functionality (GSM/GPRS/GPRS 200/400/800 KHz networks).

Available in Canada in January 2003, the Bluetooth-enabled 2460 will be the first leading handset available in North America. It features a built-in camera, and will send messages with video, images, text, and voice clips. It comes with a 170x200 pixel high-resolution color display and a MB RAM memory. Other models include:

- The tri-band **7250**, which also incorporates a camera and has a high-resolution 262x132 pixel color display.
- The **6100**, which is meant primarily for voice functions, but has a color



screen, and is compatible with **Nokia's** Camera Reader.

- The **6060**, which has a full QWERTY keyboard that, when screened, automatically reorients the screen to stay visible while typing.
- The tri-band **6100** has a more durable design than **Nokia's** other models, and includes a flashlight, color camera and thermometer, and a compass.
- Compatible with **Nokia** Pop-Port Connector-enabled phones, the **Camera Reader** allows for hands-free calls and image sharing via MMS. Images can be previewed on the phone screen and saved in the **Photo Gallery** before being sent. Users can also listen to music through headphones equipped with an FM radio.

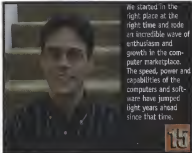
Spotlight

Fifteen years ago

By Douglas Alder

Fifteen years ago, in early December 1987 (I am writing this before Christmas for a February issue deadline), I arrived back in Vancouver from Toronto. I had a feebly rented MBA, a wife and three kids, a Mac Plus and LaserWriter, and no job. A friend of mine had just seen on San Francisco and brought back two free newspapers dedicated to computers, *Adventures* and *Computer Currents*. They were newspaper, with full-colour covers, and over 100 pages each. Looking at them, I thought, "We could do this here in Vancouver." So we did.

The marketplace we entered had already seen a few efforts at computer publishing. An annual directory called *CTWP* had come and gone. There was a Victoria-based software newsletter called *Inside Software: Canada Computes*, based on Toronto. *Computer*, was being circulated in small numbers and had no local advertisers. David Chalk's *Dogpile Computers* had a glossy magazine for a



while called *Dogpile's Computer Super Magazine*. It was primarily based on ad-on-up dollars from the company's sup-

pliers and did not last long because of its lack of appeal to other competitive dealers. There was another publication circu-

lating at the time, called *Computer Consumers Guide*, published by a computer dealer, but it soon dropped away.

The first issue of *The Computer Paper* came out in February 1988. It was 36 pages, with a black, blue and yellow cover, contained 28 advertisements and articles about Canadian payroll software, Microsoft's syndicated articles, and a Macworld Expo report. A full-page ad would be purchased for \$600.

In retrospect it was not very impressive, but it proved to be a foothold and *The Computer Paper* evolved rapidly over the next decade, had five offices across Canada, distribution in most major cities, and a monthly readership of half a million.

Some of the hardware featured in that first issue of *The Computer Paper* included a 20 MHz 286 CPU with a high-resolution TFT monitor and a Roland dot matrix printer for \$1,998. For another \$325 you could add a 20 MB hard drive to the basic floppy-only system. On this cover is a 934 MHz notebook that weighed 4 kg. 19

Continued on page 14

The first great decade of personal computing

By Graeme Rowell

In many ways, the years 1982 and 1988 were a time of transition. Eight-and 16-bit computers suddenly seemed outmoded, as more powerful 32-bit processors from Motorola and Intel powered a new class of machines. The first CD-ROMs were bringing a new level of sophistication to software titles and computer-based reference libraries.

It was an exciting time to be in the computer business. In February 1989, Commodore had just released the Amiga 500 and Amiga 2000. At the time, I was the president of a software development company, creating best-sellers of a range of products for the Motorola-based Atari ST and GEM-based Amiga computers. One of our products became a top-40-selling Amiga title, making us quite a lot of money.

Around this time, in the parking lot behind my recording studio, we collected the sound effects for Accolade's sell-out development game, *Hardball II*, with a

young Don Mattuck (now president of Electronic Arts Canada). *Hardball II* subsequently won a Software Publishers Association award for best sports game of the year.

In March 1987, Apple released its first colour Macintosh. Suddenly, the Amiga and Atari ST didn't seem so advanced. Atari and Amiga owners had to console themselves with the fact that their machines were considerably less expensive. The Mac II, with its millions of colour and open architecture, cost several thousand dollars—an Atari or Amiga could be had for a few hundred.

Seeing the shifting tide, I paid a great deal of money for a Macintosh II and 4386. AppleColor monitor around this time. A part of me still craved "power without the price," but HyperCard, released by Apple that August, reassured me that the Mac was the platform with the best software.

Although the Mac II's 38-bit colour

Continued on page 14



I remember walking into a scene of pandemonium at a local computer store, where sales people were horrified to discover that every Amiga on the sales floor was infected. They even found viruses on the write-protected floppy disks inside shrink-wrapped packages on the store shelves!

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The first great decade

Continued from page 12

(which, incidentally, HyperCard didn't exploit) set it far ahead of the primitive PC graphics of the day, things were moving quickly in the PC world. In April 1985, the VGA standard and a higher-resolution 8544-A display adapter were announced by IBM. By the fall, VGA adapters were a hot commodity. A company growing Canadian company called AT&T, founded in 1985, couldn't seem to make enough of them.

A few years earlier, Apple had touted the Macintosh as "The computer for the rest of us." Suddenly, that slogan seemed like an understatement, as the burgeoning market for PC clones was rapidly driving down the cost of IBM-compatible components—a step that would, over the coming years, ultimately render Atari and Commodore irrelevant.

By the summer of 1987, the PC market was really getting momentum. Microsoft released (bought?), its first CD-ROM application, as September, and a month later, dropped Excel for Windows, the first PC-compatible version of the spreadsheet it had shown to a reportedly unimpressed Steve Jobs back in 1985.

The first Atari virus emerged in November 1987 and, within the next few months, afflicted almost every Atarix user who swapped floppies with others. I remember walking into a scene of panic moments at a local computer store, where sales people were hurried to discover that every Atarix on the sales floor was infected. They even found viruses on the unprotected floppy disks inside shrink-wrapped packages on the store shelves.

Less than a month later, the first widely distributed virus affecting IBM PCs was discovered. The PCs of the day were running Windows 2.0. IBM shipped its main-batch PS/2 and, that December launched

OS/2. LO. Microsoft stock hit \$900 per share. Microsoft had already sold half a million corporate seats and, by the end of the year, a million copies of Windows.

All at once, it seemed that the next era of computing was upon us. The time had come for the PC. A few months later, I picked up the rather thin first issue of a new publication called *The Computer Paper* and watched its progress closely in the months ahead. I visited *The Computer Paper's* Vancouver office one day and was offered a job. I soon became the resident PC expert—my database for command prompts notwithstanding. It seemed incredibly ironic to me at the time that the employees at *PCP*—widely perceived as a PC-centric publication—were almost exclusively Mac users.

By October 1988, even the racing innovations of 1987 weren't looking as advanced anymore, as Apple chief jobs, always thinking a few steps ahead, had just announced the long-awaited NEXT Cube, sporting a 17-inch monitor (and Display PostScript), Unix-based operating system, a high-capacity removable optical drive—and no floppy drive. It's amazing that, 15 years later, that future era can still be considered forward-looking.

I was tempted to downplay things between 2002 to 2003 and that great 1987/1989 era. In each case, a few, more powerful generations of processors is poised to emerge. Power will threaten smaller software developers, and yes, computing—a new reputation as "tablet computing"—a still being touted as the next big thing. Jobs is probably still thinking 15 years in the future. However, the world today is a much different place. I'll probably never see another "gold rush" as dramatic as the one of these early days, or the first years of the dot-com boom.

Some say the real golden age—the third

great age of computing—will be when our computers, handhelds, and networks "just work." I see glimmers of that possible future: from here to there, when I run Mac OS X, Windows XP or some of the freeware Linux distributions on my various computers, but it's clear that's still plenty of room for improvement.

The trouble is not everyone wants the kind of system designs that may be required for application-like functionality and industrial-strength security. Fewer options mean fewer potential conflicts.

Fifteen years ago

Continued from page 12

It), featured 640 KB of RAM and a "super readable" 80-character by 25-line screen. The unit sold for \$4,825 and had drive. A deluxe model with a 20-MB hard drive was available for \$3,950.

In those days we circulated 30,000 copies of the paper or the Vancouver area, thinking that perhaps five percent of the population might be interested in computers. It was still a pretty nerdy thing to show interest in.

In looking at my old files from this time period, I found a fairly newsletter talking about *The Computer Paper*. It was dated April of 1986. "The response from advertisers and readers has been great. Things are starting to come together well, just yesterday, I got a call from a representative of Aldus, the developer of PageMaker. He wanted me to do a review of the company's new product. You feel that you are getting somewhere when the big computers will send you their products for review. Despite the long hours, I am having fun and the money is coming in."

Of the 21 original subscribers who bought ads in that first 36-page edition, only two are still listed in the online yet

increased surveillance, we are told, means greater security. I know one thing for sure: just as there are those who refuse to give up their beloved command prompts, there will be some who will be unwilling to give up freedom for the promise of security. □

George Bennett was, at various points in the 1980s, the managing editor, senior editor and editorial director of *The Computer Paper*. Today, he owns and manages PC Buyers' Guide and Mac Buyers' Guide, and often computer consulting, marketing and training services.

low paper. Interestingly, both of these survivors are service sector businesses, not hardware retailers. That said, I dropped by Computer Vancouver last year and met a number of people from those early years, still active in the business. The names may change but the same faces kept showing up.

We started in the right place at the right time and made an incredible wave of enthusiasm and growth in the computer marketplace. The speed, power, and capabilities of the computers and software have jumped light years ahead since that time. As I tell my kids, "Back in those days we had to walk to the Internet, upload both ways through slow dial-up."

The rate of change may be at a momentary halt, but I believe that the next 15 years will bring more remarkable change within the industry. No doubt *The Computer Paper* will be there to announce the changes. □

Georgie Klotz was the original publisher and editor of *The Computer Paper* for 10 years. He is president of Inland Empire Publishing Ltd. in Vancouver. Homebased internet specialist in Windows database application development. He can be reached at Homebase Internet, www.Homebase.net, 604-961-1000, or by email at ds@homebase.net.

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Personalities of the early PC era

By Geoff Wheatright

Fifteen years, huh? It seems like 50. When *The Computer Paper* was born, I was five years into a seven-year stint of working and living in London, England—and was involved in launching my own technology magazine and newsletter.

My father-in-law, who owned a sewing machine store on West Broadway in Vancouver mentioned on the phone one day that this technology publishing business must be having the big time because a new title, called *The Computer Paper*, had just been published in Vancouver. And he knew about it because he had just sold a sewing machine to the founder of the publication, a young, wiry little chap called Kirtan Singh Khalsa (a.k.a. Douglas Allen).

It was a fascinating time in the technology business. We were past the first flush of any fledgling industry and some real London was starting to emerge. And



They were real characters, every one of them. Over the years, I was fortunate enough to meet many of them.

It was in the U.K., at the company's then-small office just outside London. And it was me and Bill Gates in a room with a Macintosh, with him showing me around the product and answering questions as we went along.



He Give
The first computer industry luncheon I remember meeting back in 1980 was a

guy called Clive Sinclair (he was later laughed and you now have to call him Sir Clive Sinclair). He produced the first popular home computer in the UK—a small, black and white system with a membrane keyboard and 1 KB of memory, known as the ZX 81 (none of the first U.K.-designed home colour computers (the ZX Spectrum); the first, literally-designed, mass-market handheld TV) a thoroughly popular microcomputer notebook system (called the ZX80), one of the first integrated computer/teletext systems (known as the One Per Desk), and many other lesser inventions including an electric car and a kid-size bicycle.

With his ginger hair and neatly trimmed moustache and beard, he reminded me of a well-groomed fox. His reputation for cleverness also matched that of the wood-and-croquet, particularly the way he sold his products.

Sinclair was famous for getting a good idea to a prototype stage, making a good

Continued on page 22

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Personalities of the PC era

Continued from page 20

for fast-track manufacturing, then taking pre-orders for the product by mail. Those pre-orders, in turn, would fund the actual manufacturing.

A product of Cambridge University and an intellectual bonfire at heart (he was a leading light in the British MENSA community), Sinclair's head for business never seemed as strong as his head for innovative ideas. He had bounced and busted a number of times, but always seems to surface with new ideas.

In the beginning there was (also) Adam

Another entrepreneurial character I met during that period was former technology journalist Adam Osborne. In the early 1980s, Osborne went from being industry observer to being an active participant with the release of the world's first popular "transportable" computer, known as the Osborne One.

It was a sewing-machine-sized computer that ran the old CP/M computer operating system, had a fold-down keyboard that unclipped from the base of the unit, and a 50-character screen. It also included a popular word-processor package known as WordStar.

By the standards of the day, the Osborne One was a huge success and Adams' company grew by leaps and bounds (eventually he later chronicled in his memoirs, *MyWayNow*). Unfortunately, Osborne did not learn the one lesson his years of observing the early years of the computer industry should have taught him: keep your eye on IBM.

While Osborne was busy enjoying his first flush of success, a lawsuit lawyer group of IBM staffers in Florida developed and launched a desktop computer that became known as the IBM PC. Within two years of its launch, it was widely cloned and copied, and IBM PC-style systems dominated the market.

Osborne failed to recognize the impact of this change quickly enough. And his company faded from view within a few years. I caught up with Osborne shortly after this adventure when he launched another company called "Paperback Software"—the premise that software should be sold the paperback books and not just "shouldn't cost so much."

The idea was good, but the products were mediocre, and the spreadsheet was enough like Lotus 1-2-3 that the company ended up in messy and expensive litigation with Lotus Development. And Osborne never regained his former glory after unspiking the importance of the IBM PC.

The coming of Compaq

But three guys from Texas understood the impact of IBM's entry into the market. They were led by a self-proclaimed Texas Instruments engineer called Rod Canine and backed financially by another longtime computer industry warrior, Ben Rosen.

Canine and his fellow Texas fanatics decided not take their idea for an IBM-compatible transportable computer on a table top at a restaurant one night, and New York-based Rosen came up with the first \$1 million to fund the

adventure that became Compaq (which was acquired in 2002 by Hewlett-Packard). It was a busy trip for Rosen, as he also put up the first \$1 million to fund Lotus Development (creator of the classic Lotus 1-2-3 spreadsheet, and now a division of IBM).

I first crossed paths with Rosen and Canine in London in late 1982. They were fresh from showing off their wares at the Comdex trade show in Las Vegas. Rosen walked into my office carrying a Compaq transportable and a copy of Lotus 1-2-3. He and Canine demonstrated the products and then we went for an enjoyable lunch at one of London's many fine French restaurants.

I kept up with Ben Rosen for many years and would aptly have been "power breakfast" with him and his business partner Bill Sever whenever they came to London. Rosen stayed with Camping until a few years ago, after more than 15 tumultuous years as chairman of the company, and helped select Michael J. Capellas to succeed Richard Pfeiffer as chief executive of the company.

The man behind Microsoft

Really the most outspung individual I have met is Bill Gates. I first encountered him back in 1981, when I visited a then-small Microsoft campus near Redmond, Wash.

The company had won the contract to put its operating system on IBM's PC, had a few games that enjoyed a measure of popularity (such as *Olympic Decathlon* and *Flight Simulator*), and was beginning to dabble in producing an operating system for a consortium of

Japanese home computer manufacturers (which resulted in something called MSX).

It had also announced, but was nowhere near shipping, a product called Microsoft Windows. The idea about what Windows could or might do went quite sketchy at the time, but it was clear that they would incorporate ideas that were then recently pioneered in the Xerox Star workstation and the groundbreaking Apple Lisa.

In fact, it was when Apple launched the original Macintosh—and Microsoft developed a spreadsheet called Excel to run on that computer—that I did my first major, sit-down interview with Gates.

It was in the U.K. at the company's three-manual office just outside London. And it was not just Bill on a couch with a Macintosh, with him showing me around the product and answering questions as we went along.

All the classic Gates hallmarks were already there—the constant rocking back and forth in his chair as we talked, the comely streamer, the way he asked me each question with vigor, and the self-assured character of his replies.

Over the years, we have talked many times and the one key rumor that I remember him describing—which applies as much to Microsoft today as it did when he talked to me about at 10 years ago—the notion of "embrace and extend." □

Geoff Awholung has been involved in the technology scene as a writer, editor and entrepreneur for more than 20 years. He is a long-time contributor to *The Computer Paper*.

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While I developed a strategy for the benchmarking reviews, Doug Alder arranged for us to rent a huge, bare room elsewhere in the building to house the new Test Lab.

15

The Computer Paper hits Hogtown

By Jeff Hayes

The first time I met TCP's Doug Alder was in 1993, when a very tall man, wearing a turban and white robe walked into the digital imaging output bureau that my wife Vel and I ran in Concord, Ont. Unlike our typical newbie desktop publishing customers, Doug—or Kartar Singh Khalsa as we knew him then—was very knowledgeable about both PostScript output and typesetting and page layout using personal computers.

He was very calm and soft spoken, unfailingly courteous, and patient. He struck me as very smart, and cheeky and sure of what he wanted.

I only knew a little about The Computer Paper. I'd seen a few copies of the Vancouver edition in the early '80s and was quite impressed. When a Toronto edition of TCP later began to appear throughout the Metro area, it was obvious that it was going to be a real contender for the Toronto computer publishing market.

Unlike the long established, usually black and white Toronto *Computers*, which I had occasionally written for, TCP regularly had striking full-colour covers, often employing 3D or vector art generated by programs such as Adobe Illustrator, or digitally manipulated photo illustrations created with Photoshop.

This Vancouver-based TCP crowd was

very tech savvy, and willing to push the digital imaging envelope a bit further each time a new desktop publishing tool became available.

The editorial content was also very good, with a stable of West Coast writers, such as Graeme Bennett, who were at least as technically adept as any Hogtown counterparts.

Very quickly, Toronto *Computers* and The Computer Paper were furiously competing for the rich Toronto market, locked in a battle to the death for ad revenues and readers.

It was great.

TCP Test Lab is born

In mid 1993, I visited TCP's tiny, busy, new Toronto ad sales office, in a renovated factory building in the rundown industrial lands of West Toronto, and got a crash course in freelance writing assignments, reviewing consumer software and games hardware.

For the next year, though, I was immersed in my own publication, as editor of *Computing News*, a glossy Canadian computer magazine I edited from late 1993 to 1994. When the publishing company went into receivership, I phoned Doug to ask if he had any advice or leads on technology writing or editing work. He paused for a moment then asked, "How would you like to start a Test Lab in the Toronto office, and be the technical editor?" I told him I'd be

Continued on page 32

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Long lookers

TCP Lab observes the world through digicams with 5X or greater zooms

By David Tanaka

There's nothing like a telephoto lens to bring the action in close, but most digital cameras today have just 3X zooms—what's a shutterbug to do!

In our search for an answer, TCP Lab came up with seven digital cameras with big telephoto lenses. We asked product manufacturers to send us any model that had a fixed lens with at least a 5X optical zoom. We received three, four-

and five megapixel models with optical zooms ranging from 5X to 16X, with street prices between \$790 and \$2,000. Minimum telephoto for this group ranges from 190 mm to 360 mm (using 35 mm film camera equivalents). That magnifies subjects from four to eight times compared to what you would see with your unaided eyes.

Depth of the field

You can set any of these cameras on automatic and expect to take very good pic-



tures—the built-in auto-exposure and focusing systems are quite capable of

making intelligent decisions in that regard. But none in this group will give

TCP Lab: Big zooms all, but otherwise a varied lot

None of the cameras in this report should be considered pocket cameras (some will fit in an oversized pocket if you don't add the bulge) because even the smallest of the lot—the Fujifilm S100S, Canonra C73S, and Kodak S700—show a blocky shape. Overall, these models share a spread in design, with considerable variation in size, ergonomics, user interfaces, and price.

The Fujifilm S100S and Hewlett-Packard P850 emphasize point-and-shoot simplicity, but the others have a lot of individual buttons and knobs. So, if you're new to digital cameras or a specific brand, you'll want to study the manual to learn which button or knob does what. And if you are coming from another brand, you may be in for some serious retraining, as there does not seem to be any agreement on a common way to implement controls, other than the shutter-release button.

While and Fujifilm also use a non stan-

dard USB port, so if you damage or lose your cable, you won't be able to go down to the local office supply store and pick up a standard mini-USB cable.

Here are highlights of other commonalities and differences:

- All have an asymmetrical layout: lens at the outer edge of one side of the body and keypad on the other.
- All have pop-up flashes and true-ambient LEDs for composing/viewfinder.
- All will record video clips. The Fujifilm S602 is unusual in that it can record 640x480 pixels at 30 frames per second up to the storage capacity of the card (about 15 minutes at a 1.68 megabyte/minute). The others are more limited.
- All use an electronic viewfinder (EVF), which is produced as a small LCD that you look at through an eyepiece. It's a video camera. The image drifts from what you get with the ground glass screen of a 35 mm single lens reflex

camera. It can be problematic in some situations, and on some cameras the image appears corner to corner.

- Three have articulated viewfinders that allow you to compose a shot from an angle other than eye level (say, if you want a woman's eye). The Nikon has a retractable LCD. The Minolta has a camera-style flip-up eyepiece, and the Sony's body pivots independently of the lens.
- Minolta Diimage is the only model with a manual view, which you control by turning a ring on the lens barrel—just as you would on a 35 mm SLR.
- Diimage, Sony, and Fujifilm S602 have manual focusing rings on the lens barrel in case you want to override the auto focus.
- Diimage, Minolta, and Sony implement a real-time luminance histogram as an exposure aid. When activated, it shows up as a small window in the viewfinder or LCD display, showing you the distribu-

tion of dark and light values.

- Sony and Nikon use a proprietary Lithium Ion battery (the rest use four AA cells [except metal hydride recommended]).
- Fujifilm S100S and the Olympus Camedia use the new all-Picam card, but the Olympus—which has dual storage slots—also accepts SmartMedia cards.
- Fujifilm S602 also has dual slots, accommodating SmartMedia and CompactFlash (including 1 GB microdrives).
- Nikon and Minolta models also accept microdrives, along with CF solid-state memory in the CF i/II card slot.
- HP model uses Secure Digital/MultiMediaCard storage media.
- Sony, as one would expect, uses the Sony-developed MemoryStick.
- Nikon and Minolta store images optionally in a raw format, which preserves and accepts.

—David Tanaka

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you as much freedom over those parameters as you want. The Fujifilm FinePix 540Z, Minolta Damage 7HS, Nikon CoolPix 5706, and Sony CyberShot DSC-F917 are the cream of their respective makers' consumer crop, and are more or less competing for the same customer: the advanced amateur or someone who seriously pursues photography as a hobby. These are precision instruments that offer the user control over virtually every aspect of picture taking.

The FinePix, Damage, and CoolPix do the least to upset the hegemony of film photographers in their transition to digital. They are first and foremost cameras, with controls and actions needed in the language of photography for the most part, albeit with a ton of electronics between the eyepiece and the shutter.

Sony, on the other hand, takes a different view on how to serve a digital photographer in the 21st century. The DSC-F717 is a capable camera in the traditional sense, but also has a number of unique features. Camera traditionalists would probably scoff at some of these, but they extend photography beyond a medium for the photo-enthusiast, and into a broad utility for daily living. For example the Multi Frame mode allows you, with a single shutter click, to capture a sequence of 16 shots within a single frame—time slices of your golf swing, for example.

The Fujifilm S1640 and Hewlett Packard P650 are at the point-and-shoot end of things. They offer users the ability to override some of the automatic settings, but neither offers a fully manual mode. However, both offer generally accurate automatic exposure systems that should the user from having to think about f-stops and shutter speeds, which is precisely what they should do, given their target use.

The Canonra C730 is in the mid-band of Olympus's camera lineup, but the 10X zoom lens makes it a rare find in this product class. Like the four high-end models in the roundup, it includes advanced exposure modes like shutter and aperture priority, as well as full manual control.

Notably by its absence is Canon, which informed us that the PowerShot Pro 90S, which has a 10X optical zoom, has been discontinued, and is currently doesn't have a model with a 5X or greater optical zoom.

Due manufacturer to keep us on our toes: At a photo trade show last
Continued on page 30

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< HANDS ON >

Long leathers

Continued from page 33

grip interposed into the right side of body, which makes the camera very easy to hold comfortably. Rubber inserts on the back and front of the handgrip, where your thumb and fingers come in contact with the camera, also enhance the feeling of comfort. Interestingly, the front ring surrounding the lens has an inner flange to take an adapter extension (which ships in the box). With the extension, you can add an optional wide-angle or telephoto adapter, or filters—near touch.

Finch 5402

From Fuji Photo Film Canada, www.fujifilm.ca
Price: \$180

Practical-looking ring. Dual memory dots support SmartMedia and CF including 1GB modules. Convenient placement of exposure compensation and AE lock controls. Cost: Large handgrip may be uncomfortable for some. Requires non-standard USB cable.



This model implements the autofocus preview on an annoying way. As with other cameras, you push the shutter button part-way down to activate the autofocus. But unlike others, which sharpen the view in real time as the focus is established, on the HP you have to release the shutter button before the focus is updated in the viewfinder.

We don't think much of digital zooming, which is actually just an in-camera crop of a smaller portion of the scene, so don't like that HP labels the camera as having a 56X zoom. The 3X optical zoom is unusual enough to allow HP hugging rights without glowing over, and possibly confusing the consumer about, the important distinction between optical and digital zooms.

CoolPix 5300

from Nikon of Canada www.nikon.ca

Price: \$1,199

Pros: Solid feel. 3X zoom gives variable wide-to-telephoto range. Clear electronic viewfinder.

Cons: Awkward location of power switch. Non-standard USB plug.



The CoolPix 5300 has a lot that will surely and not much to disappoint the purchaser. When the review unit arrived, I was surprised at how small it is. More than the others, it has the feel of a finely crafted instrument: the solid metal case contributes to that impression.


As with the Fujifilm units, I didn't cue for the placement of the power switch on the top of the handgrip. I accidentally turned it on when putting it in a camera bag many times. Initially the placement and grouping of controls didn't make sense to me. It took only about 30 minutes of fiddling with the various controls and a quick read of some of the manual before I felt settled. Still, of the high-end cameras in this report, I liked the control system the least.

Clank it up to personal preference, because once you get down to the business of taking pictures, the controls you are most likely to use are conveniently

Continued on page 36

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Long lookers

Closeouts from page 58

ever, that's of little consequence when you actually start using the camera. It encourages you to rest the big lens barrel on the upturned palms of your left hand, and once in that position, everything seems to fall nicely into place. The articulated body allows you to hold the camera above or below eye level and still have a clear view of the LCD on the back.



The main control is a jog switch that combines the functions of a rotating thumbwheel and a button switch. Spin the wheel to highlight one of several available menu items, for example exposure compensation, then push down on the wheel to activate that function. This brings up the relevant sub-

menus—the exposure compensation gauge is on this one. You spin the wheel one way or the other to dial in the compensation, then push the wheel down again to make the selection. I found it took me no time to get used to this quick-click navigation—it's simple and gives you control over a large number of functions using just one wheel. But the menu system uses white letters that turn yellow when highlighted. These two colours are sometimes hard to discriminate, especially under bright conditions. We would have preferred more contrast, say pressing the text on the active selection, or using a colour like blue or green.

Some key controls are on the right of the lens barrel, where your thumb falls when you cradle the barrel in your left palm. The zoom control is a two-stage switch—press slightly and the lens slowly zooms in or out. Push all the way and the zoom rate is accelerated. And it's very smooth.

Sony is pushing digital photography into different directions, and the camera has a few unique features. One is Clip Motion, which is intended for Web work. The mode allows you to capture

up to ten 160x120-pixel images and save them for use as animated GIFs. Another mode, called Multi Burst, captures 15 consecutive images in a single 1.280x960-pixel frame with a single

shutter click. When you play it back on the camera you see an action broken into 15 freeze frames. Sony suggests this is a tool for studying your golf or tennis swing. □

TCR Lab: Tele-extenders

Some manufacturers and third-party filter makers, like Tifcon, offer auxiliary lenses for some models. These typically screw over the camera's existing lens system using a separate extension tube, and extend the reach of the existing telephoto by one and a half to five times.

I've been using a 1.5X tele-extender on my Canon G6 for the past six months, and the results have been a mixed bag. It brings the telephoto up to about 550 mm, which is decent, but most of wide-angle portion of the main lens is unusable because of serious vignetting—with the tele-extender mounted and the camera set to wide angle, you get a black frame and just a circular portion in the middle that's the actual image area.

A mechanical inconvenience is that the threads on the plastic extension tube are starting to wear down, which makes it easy to cross-thread it when attaching it to the camera. Also, even though the auxiliary lens and extension tube are from Canon, and designed for the G6, not much has gone into their aesthetics; they look cheap compared to the camera. Function over form, I suppose, and it does offer that extra reach when it's impractical to move physically closer to a subject.

Taking tele-extenders to the extreme is an interesting subculture of birdwatchers using the Nikon Coolpix line generation of cameras. Because these cameras have internal zoom mechanisms and a relatively small lens diameter, someone hit on the idea of adapting the eyepiece of a telescope to the Coolpix to produce a really long telephoto—and the digibird was born.

—David Tanaka

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Take a few tablets and call me in the morning

TCP Lab looks at five pen-based computing options

By Sean Carruthers

With the introduction of the Tablet PC edition of Windows XP, Microsoft is making a bold bet that mobile users are interested in pen-based computing. The market for handheld devices like Palm and Pocket PC has been fairly strong, so why wouldn't people want to add a stylus to their notebook-sized computer?

It's a sticky question. Most notebook computers users have learned to interact with them reasonably efficiently, drawing a pen into the equation is bound to be disconcerting, at least for a while. This disconcerting is compounded when you choose a state-format Tablet PC, which eliminates the keyboard altogether. The question that a lot of people will surely ask us, "why do I even need a pen when the keyboard works just fine?"

It's a fair question. In the short term,

only users with very specific needs may want to pursue the Tablet PC.

One such obvious use would be for any user who needs a portable readout for taking notes, that consist of a mix between diagrams and text (flowcharting, mathematical equations, chemical diagrams, or prototype sketches, for example).

Another one would be for inventory-taking applications. And, of course, there are those who just prefer to write things down instead of typing.

The case for the Tablet PC

- Desktop run full versions of Windows XP with Tablet PC enhancements, which means they can be used in fully horizontal portable computers.
- Stylus input is a more natural method of input for a lot of users.
- Screen is not touch-sensitive like those found on PDAs. Instead, it uses magnets to sense the stylus so your finger will not cause cursor

- A Tablet PC screen is designed to switch between portrait and landscape orientation to suit the way you work, with just a touch of the screen orientation button.
- Tablet PCs can often be docked and used with external equipment like CD drives, keyboards, mice, and monitors, which means your portable "notebook" can also function as your workstation.
- The OS allows you to save files with ".tlf" files, just like save the names of files, then search for them later by your handwritten titles.
- Handwriting recognition has improved; the system is able to understand cursive handwriting more reliably, even on diagonal angles.
- "Tilt" capabilities will be included into future versions of Microsoft Office products. An update pack is already available for Office XP.

The case against Tablet PC

- Tablet PCs are almost identical to notebooks, so they are much heavier than PDAs. Carrying one under your arm could get tiring over the course

of a whole day.

- If you choose for get-stuck-with-a-state-format Tablet PC, you'll have to remain how to input data—and quite possibly remain penmanship. Alternately, you can hunt and peck using a small on-screen keyboard, which isn't ideal if you need to enter data with any speed.
- If you've done any pen-based computing in the past, it may be a bit hard to get used to the fact that you can lay your hand against the screen without affecting the cursor position.
- Because the performance is less than a regular one, you lose the on-screen input capability if you lose the stylus. It is also more expensive to replace than the type of plain plastic stick that comes with a PDA.
- Generally speaking, battery life is still an issue (as it is with notebooks)—and that's problematic for a device that's meant to be carried around all day.
- Tablet PCs still have a price premium compared to notebooks, and even then you'll probably have to make do with a smaller screen and a

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Take a few tablets

Continued from page 43

tally if you're not careful. Lastly, while the keys are laid out on a five-degree curve to maximize usability in a small form factor, some are still very small and may pose problems if your fingers aren't used to the scale (we kept hitting Page Up or Page Down when trying to use the cursor keys during our evaluation).

A more serious problem is with the overall performance of the C100. Though the machine comes with an 800 MHz Mobile Pentium III processor and 256 MB of RAM, it needs to choke when you hit it with anything really demanding, like serious image processing in Photoshop is just one example. It should be stressed that for general use, the C100 should be just fine, and that it isn't any different from similarly configured models from other manufacturers. So, take note if you're a power user.

The C100 comes with a few very nice extras. Although a compact stylus tucks into the top of the screen, there's also a larger stylus included in the box. It's one of the few models we've seen that comes with an external CD drive, which means

you don't have to invest extra money in an optical drive.

Even better, the TMC102T model comes with an additional battery and built-in 802.11b wireless networking, which are not included on the TMC102T model. (The TMC102T also bumps the hard drive capacity up from 20 GB to 40 GB, which is even nicer.)

Electronics Scribblers

From Electronics, www.electronicsscribbler.com

Estimated price range: \$2,499 to \$4,999

Model available:

| Model | CPU/Freq. | RAM | HD | Battery life | Price |
|-----------------|-----------|------|-------|--------------|---------|
| ES-SCRIB-20499S | 204MHz | 40GB | 16 GB | 10 hrs. | \$2,499 |
| ES-SCRIB-20499S | 204MHz | 40GB | 16 GB | 10 hrs. | \$2,499 |
| ES-SCRIB-20499S | 204MHz | 40GB | 16 GB | 10 hrs. | \$2,499 |
| ES-SCRIB-20499S | 204MHz | 40GB | 16 GB | 10 hrs. | \$2,499 |

*Costs with optional setup

Pro: Exceptionally long battery life. Decent battery

Con: Heavy. Not any stylish. Port cover awkward

Considered one of Electronics' best made a name for itself in the battery business, thanks to its line of long-life PowerPad batteries for notebooks. On the surface, the Tablet PC would seem like an odd category for Electronics to get into, but it actually makes sense—one of the

biggest concerns with mobile computing is how long the battery will last.



That's the tack Electronics has taken with its Scribber line of slate-format Tablet PCs, building in a rechargeable battery designed to provide anywhere between eight and 11 hours of runtime between charges, which means you could theoretically walk around with your Scribber for the entire work day before having to plug it in again.

Because that is the company's first foray into the world of computers, it's probably understandable that the design of the Scribber is, well, on the basic side. That's a polite way of saying it's functional but it's not going to win any beauty contests. The casing is very functional, and the controls are definitely innovative to operate any of the "buttons" along the front of the Scribber, you actually have to insert the tip of your stylus into a little hole, which means you can't accidentally depress any buttons during regular operation.

It also has a launch button specifically for Windows Launch, and a thumb cut for use for easy scrolling and selection. The design has a couple of drawbacks, though, the rubberized strips covering the ports are a bit awkward when you

have anything plugged in (Ethernet, PC Card, or headphones, for example). If you use this as a desktop replacement



you'll probably want to just rip the strips off altogether. Because floppy and CD are not included, you'll need to get them separately if you'll require external drives to do your work.

Another potential issue is the battery. The Scribber uses one of Electronics' then long-life cells, but it's sealed inside the unit behind a panel that's screwed down. It's not really easy to remove, and you can't just pop another battery in if you're out of juice, like you can with most other Tablet PCs or notebook models. Because the battery is designed to run for up to 12 hours, that shouldn't be a huge concern. If you do require a longer runtime than the internal battery will provide, you can always turn the Scribber up with Electronics' external PowerPad.

One note with regards to the handwriting: The next we looked at was actually a pre-production sample that contained the case functionality in the shipping units, but which had slightly different specs than those models. We have listed the breakdown of the different models' specs above.

The review model included an 866 MHz Pentium III processor, but only 256 MB of memory and a 20 GB hard drive. Because of that, you can expect slightly slower performance from the SC-100 model and slightly better performance out of the SC-300.)

Continued on page 82

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FlipAlbum creates virtual photo albums

By David Tanaka

You have a growing collection of digital photos, so wouldn't it be neat if you could show them in an album, as you would your regular prints? That's the main premise behind FlipAlbum, an application that lets you place images in virtual-album pages, then flip through them on your computer screen at the click of a mouse button.



FlipAlbum 5
From eBook Systems, www.flipalbum.com
Price: US\$24.95 (Standard), US\$39.95 (Just),
US\$49.95 (Professional)

The albums you create are 3D visual representations of a photo album, with a cover, table of contents, and album pages. Clicking on the left or right "page" turns it over, or flips it (hence the name), with an animated sequence that looks like you are flipping through the pages of an actual

album.

The album also permits quick access to the table of contents, or specific pages. Pages can be bookmarked, and a slideshow feature lets you sit back and view images while the software automatically turns the pages.

Albums can be posted to various Internet sites, including one managed by eBook Systems.

A FlipBook viewer is needed, but a basic one can be downloaded for free from the FlipBook site.

With the Suite and Professional editions, a CD creation utility is also included. You need to use separate CD recording software to actually burn the CD, but the FlipBook utility assembles the images, a FlipBook viewer, and an album program, so anyone can just pop the disc you've created into the CD drive of a Windows-based computer and view the album.

Additional features of the Professional version are aimed at commercial applications. You can prevent people from printing images from the CD, something that photographers might want to implement; they could send images to prospective clients on spec and still protect their images against unauthorized use. The CD can also be set to "expire" after a certain date.

The Professional edition also allows commercial distribution of FlipBooks, which means the program could be used to create and distribute product catalogs, for example.

FlipAlbums can be customized using "themes" that consist of coordinated covers and interior pages of various designs. Some themes are included for common

events (weddings, graduation, vacation and birthdays, for example) and you can buy more themes or learn how to create your own on the FlipBook community site.

Building a basic album is very simple: select a suitable theme, open a folder of images, and FlipAlbum automatically creates thumbnails, table of contents, index, and as many pages as necessary to show the images, with one photo per page. You can change themes at any time, and add images from other folders by selecting each folder in turn, then picking the images you want to import.

The program places small thumbnail images on the first pages of the album, followed by the table of contents. It automatically generates an index that is placed on the last pages of the album. You can change the order of the images by either dragging a thumbnail or a table of contents listing to a new position.

The thumbnails, table of contents listings, index, and images themselves are linked, so a change to one updates the others—for example, reordering the order of two thumbnails causes the order of the actual images to change, with the contents and index entries updated as well.

You can also add annotations to the page, as well as multimedia components such as video or music clips, or a voice comment.

The program supports a number of still image (including GIF, TIFF, JPEG, and BMP), motion (AVI), and sound (WAV and MP3) file formats.

The program allows you some flexibility to manipulate the layout—for example, reordering images and placing multiple of

them on the page—in much the same way you'd lay out a page using desktop publishing software.

However, we found this confuses the table of contents and index. If pictures X and Y were on separate pages and you move them to the same page, the contents page doesn't have the intelligence to adjust for this: the new page with the two images attains the sense of one of the original images, while the reference to the second image stays with the original, now-blank page.

The program uses the existing name of the image files to create the album, so if you want meaningful labels like "Yoshi and Jean," rather than 05000014, it's best to rename the image files before importing them into FlipAlbum.

Also, while the program will resize the images to fit onto the page, it doesn't actually alter the file size.

If you populate your album with a lot of high-resolution images, the FlipAlbum will become unnecessarily bloated. We found that reducing images to 640x480 kept the albums small, while providing more than enough quality for onscreen viewing.

FlipAlbum includes a competent image editor that allows you to correct minor image defects like red eye, alter brightness and contrast, and add effects.

Overall, FlipAlbum makes very attractive virtual albums. The program is easy for anyone to use, but also adds some advanced features and allows customizations that make it a great tool for commercial applications, too. This one will definitely stay on my hard drive for a while. **D**



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Web accessibility hits the mainstream

By Todd Cooper and Jeff Hesse

Despite the ubiquitous nature of the Internet and wholesale advances in technology, the World Wide Web still represents a barrier for people with disabilities.

Numerous studies have shown that at least 10 percent of the online community uses assistive technologies to access the Internet while at the same time 95 to 99 percent of all Web sites are functionally accessible to the visually, hearing, and/or mobility impaired.

From a business perspective, the statistics are even more compelling: consumers with disabilities have an estimated of US\$175 billion in discretionary income. This is a chronically underserved online audience with immense buying power.

In addition to a positive potential impact on the bottom line, developing or redeveloping an online presence to meet accessibility standards offers a variety of other benefits. Foremost is that accessible Web sites are much better for viewing in alternative formats, as their content is more easily converted into other Internet protocols, such as WAP. In this case, an organization could roll out access to online information from non-PC-based user agents, such as PDAs and cell phones, at a much faster pace and at a much lower cost.

Accessibility also goes hand-in-hand



As a whole, the disabled user community is also very vocal about accessibility issues, and loyal to organizations that demonstrate an effort towards improving accessibility.

with creating a positive customer experience. Research shows that accessible Web sites generate more repeat visits from users than their inaccessible counterparts. As a whole, the disabled user community is also very vocal about accessibility issues, and loyal to organizations

that demonstrate an effort towards improving accessibility—giving credence to the old adage that the best (and cheapest) form of advertising is a word of mouth.

Finally, an accessible Web site can help reduce an organization's legal liability.

South of the border, the passage of the American Disabilities Act (ADA) in 1990 has resulted in a number of high-profile lawsuits against multi-national corporations that have a Canadian presence. In 1999, the National Federation of the Blind sued America Online, forcing it to make its integrated Web browser compatible with assistive adaptive technology. Similar lawsuits were initiated against Intel and IBM. Block. Many experts feel that it is only a matter of time until Internet accessibility is universally mandated in the private sector on a global basis.

Assistive technologies

So, what exactly makes a Web site inaccessible? Common accessibility problems include:

- images without ALT/alternative text;
 - uncaptioned audio;
 - video without textual content;
 - pages with poor colour contrast;
 - improper use of structural elements (like HTML tables) on a page;
 - and/or the lack of an alternative for users who are incapable of executing specialized scripts or accessing frames.
- Typically, a combination of these factors can make even the most common Web tasks, like reading, searching, and purchasing goods and services much more challenging or even impossible for someone with a disability to carry out.

Continued on page 59

W3C standards and Canadian look and feel guidelines

A major proponent of universal access to information on the Web is the World Wide Web Consortium (W3C), an international, vendor neutral consortium consisting of more than 400 members that promote the growth and interoperability of the Web. The lack of formal accessibility guidelines for Web developers and designers spurred the W3C to develop the Web Accessibility Initiative (WAI) going from the lack of focusing on Web accessibility in five areas: technology, guidelines, tools, education and outreach, and research and development.

The WAI released an initial set of Web Content Accessibility Guidelines (www.w3.org/TR/WCAG101/) in May 1998. The specification contains 34 guidelines that provide general principles of

accessible Web page design and corresponding "check points" that outline how to implement the guidelines in HTML. Guideline 1, for example, states the necessity to "provide equivalent alternatives to auditory and visual content." This means text equivalents are available to users who cannot view images or hear audio.

In addition to the specification, the WAI also drafted an accessibility checklist to serve as a tool to review Web sites. Checklist items are broken down into two of three priorities, based on their overall impact on accessibility. The checklist is composed of 12 high-priority, 33 medium-priority, and 16 lower-priority rules.

The complete specification and accompanying check lists are available on the W3C Web site at www.w3.org/TR/WCAG101/.

Version 2.0 of WAI's Web Content Accessibility Guidelines is currently in working draft format. Currently, no release date for the updated guidelines has been set.

A Canadian perspective

In Canada, the federal government's Web sites are leading the accessibility charge. Leveraging the recommendations of the WAI, the Treasury Board of Canada Secretariat approved the Common Look and Feel (CLAF) Standards and Guidelines (www.tb.gc.ca/claf/) for Government of Canada Internet sites in May 2000.

These guidelines were designed to make any federal government Web site accessible to anyone with a computer that has access to the Internet.

All federal Web sites are slated to conform to CLAF standards by the end of December 2000.

Canadian private-sector companies are also getting into the accessibility act. Ottawa-based Watchfire Corp. (www.watchfire.com), a developer of Web site management solutions, recently acquired Bobby—a popular online tool for measuring accessibility—from the Center for Applied Special Technology (CAST). Bobby is slated to be integrated into Watchfire, Watchfire's Web site management platform and WebDA, its Web site tracking tool for Web developers. Bobby is one of many commercial and freeware software applications available for gauging the accessibility of a Web site.

—Todd Cooper and Jeff Hesse

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Master spell checking in Word

Contacted from page 52
the Spelling and Grammar dialogues. You can move between this dialogue and the document you are editing by pressing Control + Tab. When you're done, click the Resume button in the dialogue to continue with your spell check.

After you've spell checked a document once and chosen Ignore Once or Ignore All for reported errors, you'll find they won't be reported again during the current editing session. However, they will be reported again if you close the document, reopen it, and rerun spell check. If you want Word to recheck a document it's full (including reporting previously ignored errors), you don't have to close and reopen it. Instead, choose Tools, Options, Spelling & Grammar, and click Recheck Document to clear the list of ignored words and spell check as if you hadn't checked the document previously.

Removing misspellings

It happens to everyone occasionally: you click the Add to Dictionary button instead of the Change button and add a misspelled word to your dictionary. The result

is that the type won't be flagged as a potential error unless you remove the misspelling from the dictionary. To do this in Word 2002, choose Tools, Options, Spelling & Grammar, click Custom Dictionaries, select the Default Dictionary, and click Modify. A list of words you've added to the dictionary will appear on the screen. To remove one, simply select it, and click Delete. When you're done, click OK three times to exit.

With earlier versions of Word, the process is a little different. Choose Tools, Options, Spelling & Grammar, click Dictionaries, select the dictionary you want to modify (there's probably only one in this list), and click Edit. You'll see a new Word document appear that contains a list of the words you've added to your dictionary.

Find the misspelled word, select it, and press the Delete key to remove the word and the paragraph marker (there should be no blank line in place of the removed word). Save the file by choosing File, Save, and answering Yes to any prompt that appears warning about possible formatting losses (Turn Off). Close the file by choosing File Close. If you had

Automatic Spell Checking enabled before you edited this file, you'll have to enable it again by selecting Tools, Options, and the Spelling & Grammar tab.

Selecting what to check

You can set up your document so that a selection of text won't be spell checked (macro or HTML code, for example). To do this, select the text you don't want checked, choose Tools, then Language, enable the Do Not Correct Spelling or Grammar checkbox and click OK. The spell check will now skip the selected text.

If you frequently type text you don't want to be checked, you can create your own Style so you won't have to go through all of the above steps each time. To do this, select a paragraph that has spell checking disabled, click in the Style list box on the Formatting toolbar, and type in a name for your style (SpellCheckOff, for example), and press Enter. Now choose Format, Styles and Formatting to display the task pane, right-click on your new style and choose Modify. Enable the Add to template checkbox and click OK. This adds the style to your current template (which is most probably Normal.doc) so it's available to all new documents based on this template.

You can also specify the language used to spell check a document, for example, you can use English (U.S.) or English (Canada), depending on your spelling preferences and the needs of your readers. To do this, select the text you want to change the spelling language for, choose Tools, Language, and pick a language. If the requisite language support is not available, you'll be prompted to install it at this point. Once installed, Word will swap from one language to another as required by the options you've set for each piece of text.

Add your own dictionary

When you're spell checking a document and you click the Add to Dictionary button, Word adds the currently selected word to a user dictionary. If you haven't specified otherwise, the dictionary is called Custom.dic. It is really a simple list of words added to the user dictionary, which can be edited.

You can also have more than one custom dictionary. If you work in a legal practice, for example, you can buy a dictionary of common legal words to use with your spell checker. You can also build your own dictionary as you work by adding commonly spelled words every time

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If you're creating your own dictionary, make sure you regularly back it up so you don't lose it if your hard drive crashes. It is also possible to share a dictionary you've created with others in your office.

To do this, copy your dictionary file to their computer and then "install" it as described above.

To ensure your custom dictionary is used when Word spell checks your document, choose Tools, Options, Spelling & Grammar, and check that the Suggest from Main Dictionary only option is enabled. This ensures your custom dictionary will be used as a source of correctly spelled words.

There are a couple of ways you can add words to a custom dictionary. One is to type the word in a document, run a spell check and click Add to Dictionary when it is reported as a possible error. You can also add words using the same process you used to remove misspellings: Instead of removing a word, though, you add one. It's very easy to do with Word 2000's custom dialog box. For Word 2000 or 97, just type the word at the top of the list. While the list appears in alphabetical order, you don't have to add the words alphabetically—Word will reorder them when you add a word to this dictionary using the Add button.

As dictionaries are only plain text files, you can also open any .dic file and add words by typing them or by copying and

pasting from another file. Just make sure you save the file with its .dic extension and as a Text Only (*.txt) file—again, don't worry about putting the words in alphabetical order; Word will do that for you.

Excluding words

Although you can edit your own custom dictionaries, Word's own dictionary can't be edited. This can be frustrating if, for example, you frequently use a word in the wrong context but use a correct spelling of the word. Typing the dictionary instead of stationery, for example. It would be nice to be able to remove a word (in this example, we'll want to remove "stationery") from the dictionary so we'll be prompted to change it whenever it was encountered.

While you can't remove the word, you can exclude them from the dictionary by creating an exclusion file. An exclusion file is simply a list of words you want flagged as misspellings when encountered in a spell check.

Below you can create an exclusion file, you need a filename and location for the file. To do this, choose Start, Find, Files or Folders, and search for Map*.doc. The results will be a list of all the locations (word files) you have encountered, any of

which may be being used by Word. You will need to have one exclusion file (with the extension .excl) for each .doc file you find.

In Word 2000/2002 the exclusion (.excl) files must appear in the same folder as your custom .dic file. If you're using Word 97, the .excl files must be saved in the same folder as your .doc files. If you are using Word 2000/2002 and you're not sure where your custom .dic is, use Start, Find, and Files or Folders to locate it. If you find multiple versions, choose the one with the most recent date.

Your .excl file is a plain text file you create using Word, Notepad, or WordPad—the resulting file must be saved as Text Only (*.txt). Type each word, one to a line, in this file, then save the file with the correct name and location. If you have multiple .doc files, save this file multiple times with different names so you create one .excl file for each .doc file.

When you're done, close and restart Word and type one of the excluded words. Spell check the document and you'll find the word will be flagged as a potential spelling error.

This allows you to check the word each time you type it to ensure you've used it

Continued on page 37

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PowerPoint presentation tips

View it in miniature • View the current slide show in miniature (not taking up the whole screen) by holding the Control key as you choose View, then View Show. A smaller version of your show will appear in the top corner of the screen. You'll be able to step through it, and even move your presentation design on the screen in an easy-to-see view. Switch between the two, making your edits in the edit area and immediately seeing the changes in the playing version.

Smarter editing • If you have an IntelliPoint mouse or one with a scroll wheel, that controls zooming, you can use it to zoom in and out of a slide when adding to see more or less of it on screen. On Normal view, with the slide visible, simply hold the Control key while you roll the mouse wheel to make the slide larger or smaller as required.

Double in a presentation • When making a presentation, you can draw on the

screen—you may, for example, want to circle a number or an important point. To do this, click Control + P while making your presentation to turn your mouse pointer into a pen that you can use to draw on your presentation. To turn it into an arrow to use to point to items, click Control + A. Your drawing will not be saved with the presentation, and will disappear as soon as you move to the next slide.

Erase pen marks • To remove the pen marks from the slide without advancing to the next slide, click the Slide controls at the bottom-left of the screen and choose Screen, then Erase Pen.

Saving timing • When you're rehearsing the timing of slides, you can save them as the presentation timings and use them to automate the presentation. You can even switch between the two by choosing Slide Show, Set Up Show, and select the use timings if Present option or Manually for advancing slides.

Hide the slide menu • When making a presentation, you can remove the menu indicator in the bottom-left of the screen by choosing Tools, Options, View tabs, disabling the Show Pop-Up Menu Buttons checkbox, and clicking OK. The indicator for the popup menu will be removed, but you can still display it any time by right-clicking the screen and choosing the menu option you want.

Finish off with a blank • When you've finished your presentation, it will look more professional if it ends with a blank screen—not the inside of PowerPoint—if you are running it from here. To ensure all you see is black when you're done, choose Tools, Options, View tab, and enable the End With Black Slide checkbox.

Paper-based shows • One way to fully document a PowerPoint show and make it available to people who weren't there or can't have access to a computer is to

print it out. To do this, choose File, Send To, and Microsoft Word. Choose the layout you want (with or without Notes), and click OK. The entire document will then appear in Word, where you can edit it or print it out as well.

Taking a break • If you need to pause your slide show midway, you can press B (black screen) or W (white screen) to clear the current slide and display an empty screen. Or, if you are happy to leave the current slide on the screen while you pause, choose Screen, then Pause from the popup menu.

View a hidden slide • If, when presenting a slide show, you choose to display a slide that is hidden (and if it is the next slide in the queue), you can do this by pressing H. Or, you can use the Go option on the popup menu to get these hidden slides appear in the list with their slide number in brackets.

—Heidi Brody



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The Computer Paper hits Montreal

Continued from page 24
happy to give it a go.

On returning to The Computer Paper's Toronto offices a year after my first visit, I felt as though a revolution had taken place while I was away.

The much larger office had been replaced by a tiny major editorial, production, and ad sales machine, which was crisscrossed by the gills with both The Computer Paper's people, and the Toronto Computer crowd, since Doug had brought out his Toronto mail several months before and moved both teams into the same space.

While I developed a strategy for the benchmarking review, Doug arranged for us to rent a huge, bare room elsewhere in the building to house the new Test Lab.

I put in a bunch of long wooden tables, power bars and a phone, and started calling all the major computers, printers, and printer companies in the Toronto area and across the country. In fact, the Test Lab had been located in the new Toronto office, rather than the Vancouver head office, because about 90

percent of the major PC hardware and peripheral brand head offices were located in the Toronto region.

PC issues

Doug's timing in his Ontario expansion was perfect: the early to mid-'90s, when he entered the Toronto market, battled and absorbed his main competitor, and named the Test Lab, was the Golden Age of the personal computer as a mass market phenomenon.

Every year, PC sales soared 15 to 25 percent higher than the previous year. Moore's Law changed along, and even power processors doubled in speed every 12 to 18 months, and all the other components of PC systems—monitors, printers, hard drives, graphics, audio and memory—increased in capability and dropped in price.

The readability for TCP, the Computer's titles and our French language title, Québec Montréal, skyrocketed to over a million each month, as more and more Canadians got into home and small business computing for the first time, and searched for accurate, Canada-specific, print reviews and retail ads.

Back to work

With the long hangover of the dotcom bubble's bursting, and the uncertainty post Sept. 11, The Computer Paper has become a more sober publication as a mass media industry. It has always tried to be useful as its readers, offering editorial content of objective, accurate stories about how to use technology to make a better life, and at the same time to provide a range of readers' ads, that is both a reflection of the very competitive Canadian retail industry, and an up-to-date, easy-to-use buying guide for the consumer.

The hot spots in the tech industry in 2003 are different than they were a

decade ago.

Instead of the PC-centric market in 1993, the focus is now on mobile computing, wired and wireless data and voice networking, digital entertainment media, new user interfaces and form factors, ease of use, and increasing productivity in learning, doing business, and communication. □

Jeff Davis, The Computer Paper's first technical editor, set up the Test Lab in 1994 making TCP Canada's first test publication to provide multi-Canada computer benchmarks for computer hardware. He was also the founding editor of Canada Computer Paper's award winning Web site: www.canadacomputers.com

Master spell checking in Word

Continued from page 35...

is the correct context. You should note that, when an excluded word is flagged as an error, you can only choose Ignore Once (Ignore All isn't an option) and the Add to Dictionary button is disabled, too.

If you change your mind about having a word in your masterlist file, open each exc. file, remove the word, and save it

again. As you can see, there's more to Word's spell checker than meets the eye. It's a great tool and, while you can never totally do away with the need to proof-read your documents, there are ways to make better use of this tool. □

John B. Kelly speaks in writing hardware talks. Her columns appear regularly in a number of publications in Australia, the UK, and US. Contact John at jbe@telstra.net.au

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GUI: The next generation



Feature enhancements, and new tools. Let's take a look at where GNOME and KDE are going in their next incarnations.

GNOME 2.2

It seems that GNOME 2.0 was just released, and yet here we are talking about GNOME 2.2. How, then, isn't a major jump in numbering. GNOME follows the same method of numbering releases that the Linux kernel team does, having all odd-numbered ones (GNOME 2.1, for example) be the experimental versions and the even (such as 2.2) being the "production" versions.

If you use GNOME often, you probably get frustrated at times with its ability to render fonts. To the non-programmer it doesn't seem that throwing text onto a screen should be a big deal, but it's quite a complicated process, and the GUI tooling world is always looking for the next revolution in this area.

While it might not be revolutionary, GNOME's first support in 2.2 will improve through a combination of adding fontconfig (www.fontconfig.org), which will help you to automate font management, a traditional headache, and Xft, which is somewhat of a middleman, selecting fonts using fontconfig, then rendering them on the screen using the X Window System protocols.

A number of "look" improvements are coming, too. GNOME's Accessibility Project moved the 2002 Release Kicker award, but that hasn't made the developers all that happy. There are high contrast themes coming for those who need visuals to easily stand out, or change everything to large text fonts. On the other end of the

spectrum there are the ultra-neo multi-monitor (multi-headed) setups, which will have some features in the GNOME 2.2 panel.

The next text editor continues to grow and get new features. While this may seem a bit silly for a text editor, remember that some people still like to build and edit HTML in a text editor, and new items like auto-indentation will definitely help for that use.

Index files like a little play with their work will also enjoy the new multimedia features, and we'll also like the improved GNOME performance.

KDE 3.1

At the time of this writing, KDE 3.1 is already in its second release candidate phase, so by the time you read this it's probably already been released. That doesn't mean that many people have switched to it, however. Changing your entire GUI environment is a bit daunting, so let's have a look at the new features and you can decide for yourself whether

you think it's worth it or not.

The KDE browser, Konqueror, is getting an update. In 3.1, this tool will offer the ability to have multiple Web pages open, each under its own tab in the same browser window. Konqueror also gains the ability to save more than just Web page text content, adding metadata and multimedia resources to its arsenal. Better support for common Microsoft-specific Web items, like "smart quotes," is also included.

Other KDE applications, like Kview, get new features as well, such as new plug-ins and mousewheel support. KFile gets a load of new items. Almost 20 new plug-ins will allow this program to do things such as add and access comments within JPEG files, get a list of file statistics in C++ code files, and get word and line counts for a file.

The KDE PIM (personal information manager) also has a host of updates coming. LBAF support, a more fully featured address book, updated PGP support, and

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< TCP 15th ANNIVERSARY >

In the very near future, computer and communication tools for the automobile will finally begin coming on stream big time, as a new car/computer/network interface—long a sore point with TCP readers—takes hold.



Fifteen years ahead

By Christopher Rhyne

Hard to believe this is the 15th anniversary issue of TCP. I remember drooling over a multi-thousand dollar 86-based PC XT "close" in these pages back then. Get "386 performance at 284 prices" blarney and I found myself from June, 1988.

But what about five, or maybe 15 years ahead? What might readers expect to see gracing the pages of TCP in 2017?

Intelligent Transportation Systems (ITS)

In the very near future, computer and communication tools for the automobile will finally begin coming on stream big time, as a new car/computer/network interface—long a sore point with TCP readers—takes hold.

But this is far more than downloading maps and fuel-use statistics into your PC. The ITS is a family of global standards initiatives begun late last century (around the time TCP hit the streets) to provide various transactional services to moving vehicles—"Teletraffic," for short.

One component of this grand plan is Dedicated Short Range Communications (DSRC), the standardization of a wireless platform for

electronic toll payments, emergency services functions, and other transactional functions within ITS. But the DSRC standards committee recently surprised the static ITS industry by choosing the next-generation wireless LAN standard 802.11a as the link for vehicle-powered, high-speed, wireless, two-way communication (www.itsnet.ca).

The market potential for DSRC devices alone—billions of units over 10 years—may well exceed that of the existing conventional PC and PDA markets combined, some experts predict.

Nanotechnology

You may have heard of nanotechnology already. If not, you are about as Hollywood-movie, science-magazine, and television show—the whole nine yards! Even *James Bond* author Michael Chrichton, in *Pre-Monster* in his latest sci-tech novel, *Prey*, a story of nano-tech gone mad.

The Oxford Canadian Dictionary defines nanotechnology as "the branch of technology that deals with dimensions and tolerances less than 100 nanometres, especially," and, "the manipulation of individual atoms and molecules."

Don't laugh. It's been at least two years

Continued on page 54

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"TCP 10th ANNIVERSARY"

The sands of time

By Sean Carroll

Fifteen years ago, I was perjury through my first year at university. My experience with computers up until that point was a mixed bag, partly educational and partly home-based. At the time, computers were not quite as integrated into my life but were still an exciting novelty.

When I was about 12 years old, I took a summer course at Brandon University called Computers for Kids; they had us use the computer lab and played at all days as friends of Commodore PETs. In a way, they had the idea of their day: they were found in schools all over the place, they had an all-in-one design, and the floppy was optional (damned, we did most of our file storage with a cassette deck). The graphics were pretty bad and the screen showed a slightly chilling green, but at the time I thought I had discovered heaven. In follow-up courses I learned that the computers could be networked together (some of us spent more time sending each other messages than actually listening to the teacher), and that you could use the computers for serious mathematical work. I was hooked.

Of course, it wasn't long before we got a computer at home to keep my interest going. My dad ordered the Sinclair Z801A, one of the first computers aimed at the consumer. It was easy to assemble (if you chose to go that route), it was fairly easy to use, plus it was inexpensive. It hooked up to the TV too, which meant we didn't have to buy a whole lot of equipment to get started. The keyboard was atrocious, featuring a number of soft-touch keys that not only acted as a standard keyboard, but were also pre-programmed to give you an entire word or command at the appropriate place, making it easier than ever to write your own programs. It came with only 1 Kib of memory onboard—thankfully my dad sprung for the weighty 16 KB RAM module, which clamped onto an edge connector on the rear.

While the Z801 was a great way to start out, it was critically limited—the



It came with only 1 KB of memory onboard—thankfully my dad sprung for the weighty 16 KB RAM module, which clamped onto an edge connector on the rear.



I was actually so happy with the TI-99/4A that I didn't pay much attention to the Vic-20 or the Commodore 64, even at the height of their popularity.



graphics were black and white only, and the sound quality was very limited.

Shortly afterwards, I stepped up to the Texas Instruments TI-99/4A, which had polysync sound and a color display. Even better, you could also attach joysticks or smart program cartridges, just like the Atari 2600. While the Sinclair was fun to goof around on, the TI-99/4A actually felt like real computing to me, at least in a brushed metal casing. The keyboard felt good to type on, and there was 16 KB of RAM already onboard, with room for even more expansion. I was actually so happy with the TI-99/4A that

I didn't pay much attention to the Vic-20 or the Commodore 64, even at the height of their popularity. Again, I could use the TV in our basement for both the picture and the sound, and I spent hours and hours programming primitive driving games, graphics displays, and simple musical notifiers that also, even then, was not to last.

Through my junior high days, I supplemented my at-home computer exploration with semi-regular visits to the

SuperFET machines located on the school's main office. (Part of this was for the fun of learning, but I have to admit that a big chunk of it was the fact that someone had figured out a way to get the SuperFET to play a fairly faithful version of Space Invaders.)

When I finally headed to high school, even that became kind of stuff when I discovered how fast it was to play around on a VAX system. I even stayed after school in order to spend time trying to

hack around the school's network, only leaving when the janitor finally headed us out.

When the first issue of *The Computer Paper* hit the streets, I was most likely sitting in a class at Brandeis University taking my first computer science course from an instructor who kept referring to himself as "your old uncle Gwynne." At that point, I was still at least a year away from buying a Commodore Amiga 500 (complete with 1 MB of RAM and no

< TCP 15th ANNIVERSARY >

hard drive). I was even farther away from buying my first IBM-based PC, which was the first of my Windows-based computers.

I've gone through so many machines and learned so much since then, but it's all been a blur. I can only imagine what will be on my desk when *The Computer Paper* celebrates its 30th anniversary.

Happy 15th, TCP! It's been great to spend part of that time with you. ☐

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double everything it is requested to write such a receipt is only going to be written for the kind of store you would reasonably expect to receive if you were to sell it to a used computer shop. You may even need to go to a used computer shop and get them to make a written offer for your equipment in order to have the paperwork to even qualify for receiving such a receipt.

At any rate, donating your old computer should ideally come from a desire to help the individual or organization to whom you are donating—and not just to get yourself a tax receipt for giving away something you couldn't use anymore.

But hey, if that's your reasoning, I am sure most charities will be happy to accept it anyway. ☐

Cashback peers up to little

Cashback from page 35

form of in-store signs posted by participating retailers, Web messages and newsletters, as well as labels on CDs indicating what percentage of the cost is the result of the existing Web (up to 42 per cent).

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ADP—If you worry that your PC may be playing host to some type of spyware (any software that covertly gathers information through a user's Internet connection without his or her knowledge, usually for advertising purposes), you can check out a utility from Lavasoft. The company says Ad-Aware is a free multi-purpose utility that scans your PC's memory, registry, and hard drives for known spyware components and lets you remove them safely. The software is compatible with Windows 98, 2000, ME 4.0, XP, and Net operating systems.

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Thera combines iX phone, Pocket PC

By David Tanaka

Most of the phone/handheld computer combos we've seen (and for hype used the Palm operating system, but Bell Mobility recently sent us a Pocket PC-based phone to try the Audiotex Thera doesn't look all that different from other Pocket PC devices (an Audiotex spokesperson told us the unit is actually made by Toshiba U), save a stubby antenna on the top-left side, and three extra buttons dedicated to phone functions (buttons on the front of the unit marked with green and red handset icons launch the Thera's telephone application or end the phone call). A sliding switch along the left edge of the unit turns the telephone screen on or off.

Whether is the main telephone application and has two tabbed windows, one for voice and the other for data. The voice window shows a likeness of a cell phone display, along with an onscreen dial pad and other buttons you'd typically find on a cell phone (volume, send, red, mute, and clear).

There is also an address book icon, and clicking on it with the stylus brings up the Pocket PC's address book application. Once you find your contact and highlight the phone number, you can complete the call by tapping the "dial" menu selection at the bottom of the screen. This type of integration, which we also saw on Sharp's Treo, is one of the best reasons to consider a combo phone, in our opinion. If you already manage your contacts using a Palm or Pocket PC device, why maintain a sec-



Audiotex Thera

Thera Audiotex Connectures Corp. Copyright by Bell Mobility, modelled at Price up to \$399 (price depending on plan)

Peak GPRS 115 kbps network performance

through GSM 115 kbps network. Phone/data modes portion well integrated with Pocket PC's address book, Web browser, and email client.

Cost: (Other party fees may apply when using phone) is used (phone auto calls to text service with included handset or separate)

Default blue on this screen theme (red) is red

battery life is about a day with light use

and database in your phone?

The Thera seems to default to speaker phone mode, and we had to turn down the volume if we wanted to use it as a headset. One person we called commented that our voice sounded a bit hollow, and another party complained that the call could hear his own voice being fed back like a faint echo. At our end, the reception was acceptable.

The data window has a drop-down menu for data services (if you subscribe to more than one), a setup button that takes you to a screen where you enter your name, password, phone number, etc., for the services you want to set up, and a button marked "connect." Once the service is set up (in our case, we merely had to type in the user name and password) provided by Bell

Mobility), the data service can be accessed by clicking on the connect button.

We found the unit connected very quickly, in about 10 seconds, we went through authentication and were online. Once connected and with Pocket Internet Explorer launched, we found surfing to a number of sites was simple and about as responsive as using a desktop computer with a dial-up connection.

Of course, the biggest limitation to the Internet experience was the Thera's small screen. On the 320x240-pixel window, most Web sites did not display properly, requiring lots of side and downward scrolling. However, this was somewhat mitigated by the colour screen, and overall, it was significantly better than surfing with the Treo (which sports a 480x160 pixel monochrome screen).

We found the Pocket PC InBox also worked well with the built-in data connection. Setting up a POP email account we have with another service provider (the InBox also supports IMAP) was quite straightforward. We had to type our email address and password, and the POP and SMTP addresses of our service provider in the appropriate fields, and once done we could download mail.

The Pocket PC portion of the unit is powered by a 266 MHz StrongARM processor, and comes with 32 MB of RAM and 32 MB of ROM. In typical office lighting the reflective TFT screen is quite dim without the front lighting, improving as the ambient brightness increases. The front lighting definitely makes the screen more readable, but

draws more battery power. The unit includes a SD/MMC card slot for expansion and a voice recorder. It runs Pocket PC 2002 operating system, and that includes the usual application set: Pocket PC versions of Word, Excel, Internet Explorer, and Media Player, and a mail client.

Overall, we were more impressed with the device than we initially thought we'd be. Taking the limitations of the screen dimensions into account, Internet surfing on the Thera is actually pleasant, thanks in no small measure to the IX screen. Likewise, surfing on an email account was straightforward. Although we didn't try it, Bell Mobility offers an additional service called Netvibes Mobile Desktop Enterprise Edition, which allows the Thera to be used to access corporate email and Outlook data.

This is definitely a handheld with phone capability, which means the phone portion is an ergonomic and audio quality compromise compared to a dedicated phone. For someone who uses a cell phone constantly, the large size and blocky shape of the handheld may become tiresome after extended use, and the audio quality of the phone portion isn't as good as a good cell phone.

Battery life on Pocket PCs has never been great, and the Thera is no different. However, the unit ships with a handheld car purse and a charger that plugs into a vehicle's cigarette lighter socket (in addition to a standard AC adapter), both of which will help offset the limitations of the device. □

Surfin on your PocketPC: Part 2

Bell Mobility (modelled) recently announced it would be adding 802.11 wireless networking products and services to the existing network calling services it offers to businesses. Included in the products it had on display during the news conference was a Symbol Technologies Wireless Network 802.11b card in a Type I CompactFlash format, which sells for about \$285.

With a lot of talk going on about "hot spots," is a companion between handheld plus Wi-Fi access (handheld plus high speed datalinks like iX or GPRS seems in order.

So we asked Bell to loan us the Symbol card for a week.

Hot spots, in case you haven't heard, are areas within publicly accessible areas where people with wireless network-enabled devices can browse or send broadcast services—to send and receive email or to go onto the Internet.

Some areas ripe for hot spot development are airport lounges, lobbies, bars, and conference centres, and such services are in fact showing up in these locations. Perhaps the most publicized of these is Lobbis, Starbucks, which got a lot of

press about the start-and-up server being rolled out in some of its U.S. outlets (none in Canada yet, according to the hot spot location on Starbucks' Web site).

We plugged the Type I Symbol card into an HP Jornada 545 PocketPC and tested it at home where we have a wireless access point connected to our high-speed service. The Thera had been sent back at this point, so we couldn't make direct comparisons, but we can make a couple of observations. First, as you might anticipate, the Wi-Fi connection seemed faster loading pages, although the loading times on the

Thera were not objectionable. Second overall the experience was very similar even though the Jornada was an older model using Windows CE 3.0, in contrast to the Thera, which used PocketPC 2002. Of course with Wi-Fi you're restricted to one area, while the coverage area is much larger with the phone.

So what's next? Maybe a device that has both. Is it coincidental that the Audiotex Thera is made by Toshiba, which also makes the eM60—a PocketPC with integrated Wi-Fi?

—David Tanaka

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PowerBook gains 17-inch display

Continued from page 24

(68 lbs.). Apple estimates the lithium prismatic battery will last up to 4.5 hours.

The 17-inch PowerBook G4 will come with Mac OS 10.2, and an integrated digital media suite called iLife, which includes new versions of iPhoto, iMovie, iTunes and iDVD. The big PowerBook is scheduled to start shipping in February. Apple Canada has set the suggested retail price at \$5,299.

The thinnest PowerBook

At the other end of the scale is the 12-inch PowerBook, which Jobs proclaimed as the thinnest full-sized PowerBook ever. The unit is barely wide enough to accommodate the full-size keyboard. It is 1.2 as thick, weighs 1.89 kg (4.2 lb.) and is powered by an 887 MHz G4 processor. It comes standard with 256 MB of DDR RAM and an NVIDIA GeForce4 420 G graphics chip. 32 MB of RAM, Apple claims battery life of five hours. Airport and SuperDrive are optional. The unit is scheduled to ship in February, and Apple Canada has set the price at \$1,899.

Got an iLife

Apple has rewritten and repackaged its digital media tools into an integrated suite it calls iLife, which will ship with all new Macs. "It's going to be so seamless for our new digital lifestyle," said Apple chief executive officer Steve Jobs during his keynote address. "We live in an incredible time—it's an inflection point," he said, of the convergence of personal music, still photography and video into a digital form.

Jobs said over the past 38 months

Apple rewrote iTunes, iPhoto, iMovie and iDVD into an integrated suite so that the individual components work seamlessly with each other. A new version of iTunes has been out for some time, but updated versions of iPhoto, iMovie and iDVD were announced during the keynote. The resulting bundle, iLife, will do for digital media what Microsoft Office did for office productivity, said Jobs, providing a common working environment for creating and enjoying personal mixed media productions.

For example, someone creating a slide show of vacation photos in iPhoto 2 or a video in iMovie would be able to use a list of music stored in iTunes and select some tracks to accompany the visuals without having to leave the iPhoto or iMovie applications.

Beyond the integration, the applications themselves have been enhanced with new or improved features. Jobs demonstrated a one-click enhance tool in iPhoto, for example, that optimizes brightness levels, contrast and white balance and a smart zoom brush that both and smooths areas—good for removing minor blemishes in skin for example.

One impressive new feature in iMovie is what Apple has named the "Ken Burns Effect," after the documentary filmmaker that pioneered Civil War still photos by painting across them to create the illusion of motion. Other improvements in iMovie include support for chapters, and an audio levels control.

New in iDVD are pre-built themes and the ability to create DVD menu screens from iMovie chapter markers.

iLife will ship with all new Macs. The latest versions of iMovie and iPhoto will be available for downloading at no charge from Jan 25. Apple Canada says a packaged version, including iTunes, iMovie, iPhoto and iDVD will cost \$75.

iGauger does a Safari

In addition to revising its "digital lifestyle" applications into an integrated suite called iLife, Apple also announced three new software applications at MacWorld here: Safari, a new Web browser for OS X; Keynote, a presentation software application; and Final Cut Express, a light version of Final Cut Pro.

Jobs and one of the reasons Apple chose to develop "the first major new browser in five years" was to improve performance. He and Safari is the fastest browser on the Mac, and claimed it was up to three times faster than Internet Explorer.

He said another reason Apple developed Safari was to reinvent, and then provided to show off some of the new features on the browser. Google is integrated into the interface so a user doesn't have to first open to Google in order to perform a search. A snapshot between words within the Google search area and the general URL address line clicking it takes the user back to the original starting page of that session, helping the alleviate the "back-back-back" ritual everyone goes through when returning from an unproductive search. A bookmark bar allows the user to add favorite sites (and using simple names or acronyms) on the browser bar for one click access to them.

Safari is based on an Open Source

code base, and Jobs got appreciative cheers and boos from the audience when he declared "we think OpenSource is great." The availability of a beta of Safari was announced at the show.

Keynote for keynotes

"Keynote was built for me," said Jobs, explaining that all of the slide shows that accompanied his keynote address in 2002 were built using Keynote. "It lets you create presentations that look like you have a graphics department working for you," he said.

The creation interface is a slide series, and the application comes with a dozen pre-built themes that create a unified look to the presentation. A photo cannot be placed on a slide unless the user to drop their own photos into a pre-designed page. Keynote includes a number of pre-made transition effects including fades, wipes and flips—and it exports to PowerPoint, QuickTime and PDF. In Canada, Keynote has a retail price of \$159.

Final Cut for the rest of us

At approximately \$1,599, Final Cut Pro is a video editing suite that caters to only the anxious videographer (or hobbyist with lots of cash). A welcome announcement for video producers of more modest means is Final Cut Express, selling in Canada for \$449.

Apple says Final Cut Express is similar to Final Cut Pro, but without some of the high-end features that would only be of interest to professionals. Users will be able to import older productions into Express, and also move Express files into the full featured Pro version. □

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Getting a grip on spam

By David F. Shell

Widespread use of email has revolutionized commerce. Access to very cheap, very fast electronic communication has greatly expanded the reach of businesses, allowing even small businesses to have global reach. Over the last few years, however, we've seen more and more of this in our inboxes.

- >>>THE ULTIMATE BULK EMAIL SOLUTION?
- "Jack Wagner and Lane Wright in 3 Weeks?"
- "FREE! 30 day supply of HGH \$499.95-7?"
- "Ah, \$5.00 per 100MB done for Gen'ra V'nges Limited Time Free Doctor Consultation"

I'm talking about unsolicited commercial email, junk mail, spam.

Spam has become more and more troublesome as spammers realize they can mass-market their wares at practically no cost. According to some studies,

spam now accounts for 38 percent of all email traffic. IDC says 31 billion junk email messages are sent every day, with projections that the number will double by 2006.

Spam isn't merely an annoyance; it costs businesses time and money. Employees waste valuable time cleaning out their mailboxes. Worst of all, spam is lowering the business value of email. What promised to be a fast, efficient means of business communication is turning out to be an exercise in junk-sorting and time-wasting.

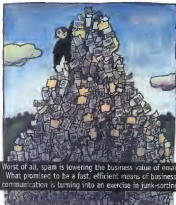
In this article, we'll look at the roots at the root of the spam problem, learn what spam-fighters are doing about it, and offer concrete tips for reducing the cost and risk of spam in your business.

The nature of spam

Several factors conspire to increase spam's prevalence and make spamming attractive to spammers:

- SMTP—the ubiquitous Simple Mail Transfer Protocol—

Continued on page 28



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Getting a grip on spam

Continued from page 77

- Transfer Protocol used on the Internet—promotes a way to authenticate the e-mail addresses of senders. Anyone can fake an e-mail address. [This has implications not only for spam, but also for the latest crop of viruses, which pretend to come from someone other than the real sender.]
- Sending an e-mail message across the Internet is as cheap as sending a text. But spammers can take advantage of this by spamming from servers in countries with weak or nonexistent anti-spam laws.
 - People still rely heavily on email, so spam is likely to reach its target. While the Mozilla Web browser allows blocking of pop-up Web ads, and some premium block other Web and instant-messaging ads, no-one is willing to close off email, because that would defeat its purpose.

As long as spamming continues to be cheap, reliable and non-traceable, it will continue to be a problem. Attacking spam requires addressing one or more of these three factors.

Thinking like a spammer

To really understand how to stop spam, we need to think like spammers. Let's put on our mean-making black hats and become evil spammers for a moment.

The first thing we need is protection from consumer backlash. We can easily achieve this by either faking the sender address completely, or using a disposable Hotmail or Yahoo e-mail address as the sender address. Statistics show that a disproportionate amount of spam claims to come from their e-mail services.

Next, we want to maximize our cost if we're on a dial-up line. We really don't want to send thousands or millions of individual messages. It's much cheaper to find a so-called "open relay" that will forward messages for us. (An open relay is a misconfigured e-mail server that accepts messages from anyone and relays them to anyone.)

This lets us batch up the messages, sending one message to perhaps hundreds of recipients, and letting it up to the open relay to redistribute them to individual recipients.)

To further lower our cost, we don't want to deal with bounced messages or

errors. Our goal is to blast messages to as many people as possible; we don't per haps care about reaching every single recipient reliably. So we use special software that ignores errors, and we fake the sending address so no bounced messages come back.

Although we don't care about the reliability of an individual message, we do care that, on the whole, the message get through. So we keep our message text to avoid sex instructions, and we don't use any attachments, preferring plain text or HTML mail.

In order to evade content-scanners, we might use tricks like mashing our message or splitting words with HTML comments: *sex<!--ing like this, We'll avoid unscrupulous content filters by writing Viagra instead of Viagra, or using g a p p y text*

Thinking like a spam fighter

Now let's put on the white hats of spam fighters. What tools do we have at our disposal?

- Spotting faked sender addresses is, in general, impossible. However, if a message comes from a noncentral

domain, it makes sense to reject it. Most e-mail server software can be configured to reject messages from non-existent domains. Unfortunately, these messages account for a vanishingly small proportion of spam.

- Blocking messages from bad e-mail providers is likely not feasible. There are simply too many legitimate users of these services to block them without negative business effects.
- Blocking open relays may be a little more promising. There are databases of open relays updated in real time, but they're just a step up a machine with a simple DNS lookup. We can block mail from machines in these databases. Unfortunately, of course, there are many more key administrators (and hence open relays) than are listed in open relay databases.
- Blocking "dislay" IP addresses can help. This prevents spammers from sending email directly from dialup or DSL PCs, forcing them instead to use their ISP's mail server and (presumably) be more accountable for their email. The downside, of course, is that you may block legitimate email, or

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forget to update your database when network addresses are rearranged.

Detecting spam is a hit-and-miss proposition. Some spammers add special headers to email messages, and can thus be detected. But most spammers try very hard not to be detectable, precisely in order to earn legitimate

money. Our last spam-fighting tool is content-scanning, and this is probably the most fair and reliable method. Spammers are usually not particularly sophisticated, and although they may use silly tricks to try to avoid content-scanners, most spam email has to put at least a certain literary style.

The two most promising content-scanning techniques are rule-based techniques and statistical techniques. With rule-based techniques, email messages are examined for certain characteristics. For example, do they mention the word "Nazi"? Do they have "AV" in the subject? Do they contain a p.p.y (not a P.O.O.L.E. LINE OF VIOLENCE) How about every exclamation mark in a message? Or embedded HTML content? —none?

Each rule is given a score, and messages

that score higher than a specified level are considered more likely to be spam. Assigning the scores, of course, is a tricky business, and there are sophisticated algorithms for coming up with scores that detect most spam while minimizing false positives. SpamAssassin is probably the most effective rule-based filter.

Statistical techniques rely on learning what is spam and what isn't, by "learning models." The filtering software is told which messages are spam and which aren't. The software looks at the messages and builds probability tables that messages containing certain words or phrases are or aren't spam. Eventually, the tables become complete and accurate enough to separate spam from non-spam without further training.

Statistical software can even be taught to classify messages as spams, business related, hobby related, etc. While statistical techniques work well for individuals, they are probably not well suited for organizations, because different people in the organization might have different ideas about what is or isn't spam, and no trainable filter is likely to work well for everybody.

Filtering links

So far, the spam-fighting techniques noted focus on detecting links (spams but what do we do after detection)?

Simply disposing of suspect messages is a non-starter for most businesses, because an automated technique, however good, can guarantee not to block legitimate email. For companies that depend on email for leads, this is unacceptable. So most spam-fighting software simply marks suspect messages with a special subject, or redirects it to a special folder. However, someone still has to wade through the junk to pull out useful messages. This is not much of a time-saver.

Some (expensive) services have legions of spam editors who manually examine messages and set up a database of which messages are spam. This database is made up by content-scanners in email servers, which then reject spam messages.

Distributed checklist services operate on a similar principle, since a message has been identified as spam by some number of volunteers, it is added to a database and everyone can reject it

automatically.

To fight back effectively, you need a multi-pronged approach.

If you run your own server, consider using real-time blacklists and distributed checklist databases. Run content-scanning software on your server to identify spams.

If you use an ISP for your email, choose one that offers an anti-spam service, preferably one that allows you to create custom blacklists and whitelists. Avoid running anti-spam software on your desktop if you can, because you still have to waste time downloading and analyzing spam. Anti-spam scanning belongs on the mail server.

Never reply to a spam message. Any reply simply confirms that your address is valid and invites more spam.

If you want to complain, never do so to administrators of the sender's domain, because the sending address is likely to be faked. Instead, look for the IP address of the mail relay and complain to network administrators for that address. You can find good

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CSS selectors: Part 2

By Keith Schengill-Roberts

In the last article, we looked at some basic selectors: compound, child, and adjacent sibling selectors. But there are other types of selectors available that allow for a greater range of selective formatting. In this article, we look at the set of selectors that lets you format attributes under a number of different conditions.

Attribute selectors

The set of attribute selectors greatly extends the functionality of the class and id attributes. The basic idea of these selectors is that they let you format Web objects utilizing attributes on a conditional basis—so you can select a particular combination of elements to be formatted when it appears within a Web page.

The Cascading Style Sheet 2.0 (CSS2) specification added four of these attribute selectors. In each case, an attribute value is enclosed within square brackets, and is then followed by further CSS code that does the actual formatting. Here are space descriptions for their use and purpose:

- element[attribute]**—Matches the name of the attribute contained within square brackets
- element[attribute="value"]**—A match is made when the attribute equals the value of "value"
- element[attribute~="value"]**—A match is made when the attribute roughly matches the value of "value," in cases where the text "value" may be part of a larger word
- element[attribute|="value"]**—A match is made whenever the attribute matches the first few letters of a value

where first few letters match the text "value."

The initial example is pretty simple whenever you have a particular type of attribute appearing against a specific element, the browser formats it accordingly. For example, take a look at the following code snippet:

```
<div id="color" color="red">  
</div>
```

In this case, any <div> header in the page that uses class=whatever its value=red will be colored red. So a header like <div class="header"> this header is in red</div> matches the criteria, whereas <div id="header"> this header is not</div> is not because it uses the id attribute instead.

You can see how this can be a powerful tool, allowing you to stylishly add some further modifying CSS code to further format anything CSS code on your Web page—in this case, any <div> header that uses the class attribute.

Things get more interesting when you come to the second example, which is where you can start adding further conditional statements to the selector, allowing you to be more choosy about what gets formatted. Consider the following code snippet:

```
<div id="header" color="red">  
</div>
```

In this case, only <div> headers containing a class attribute set to the value "header" would be formatted red. If there's an <div> header on the page with a class value set to anything else, it won't be considered a match, and therefore won't

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Take a few tablets

Continued from page 44
Fujitsu Stylistic S3401M

From Fujitsu Canada Inc., www.fujitsu.ca
 Estimated price: \$2,400

Pro: Slim design. Large hard drive. Integrated wireless networking. Wireless keyboard.

Con: Performance a bit slow. Uses wireless keyboard. Can't be used as a second desktop replacement.



Fujitsu's participation in the world of Tablet PC was to be expected, as the company has offered pen-based units with touch-screen capability for a dozen years. The company's Tablet PC, the

Stylistic, is very aptly named: It's one of the most stylish models we've looked at, and, having to send it back was heart-breaking.

The reason we liked it so much is because it's extremely compact and elegant—it's less than 2.5 cm (1 in.) thick, but still manages to include a 40 GB hard drive, USB and FireWire ports, a PC Card slot, and integrated 802.11b wireless networking to supplement the 80/100 Ethernet and 56Kbps modem.

The screen is a bit small at only 10.4 inches, but it's very crisp. The whole thing fits into a sturdy magnesium alloy case. The battery makes up the bottom part of the bezel, which is a really nice design touch, because it will allow Fujitsu to bring out physically larger and longer-lasting batteries down the road without compromising the overall design.

The inclusion of a wireless keyboard is a very nice touch, because it means the style format isn't quite so limiting. The only real concern about the keyboard's usability is that it uses a line-of-sight infrared connection to a sensor on the front of the Tablet bezel, so you'll have to

tilt the Stylistic into a vertical position to use the keyboard comfortably. Because of this, you may want to consider the docking station option to make sure the unit is held upright properly; at \$399 with a CD-ROM drive, and \$499 with a DVD/CD-RW combo drive, (Fujitsu also offers a leather portfolio case and a stylus attached to one, both of which double as stands for the Stylistic.)

If you don't want to go through that hassle, the unit is still perfectly usable with stylus input. The included pen can be tethered to the tablet so you won't lose it. Because the end of the pen is a tethering loop, the rear function of the stylus has been moved down to the two-way button (push down for right-click, push up for menu).

Even though there's a lot to like about the Stylistic, there are a few potential problems worth noting. First, the headphone jack is located along the top of the screen, which means your headphone cord will drape down over the screen when you're using the unit in portrait mode. More problematic is the machine's overall horsepower: with an 800 MHz mobile Pentium III processor

and only 256 MB of RAM, it may choke a bit if you throw anything really demanding at it (3Der multimedia), for general use it's fine.

If you want to save a few dollars, take a look at the Stylistic S3401A, which omits the 802.11b wireless component and has a 20 GB hard drive instead of a 40 GB drive. This version will save you \$359. All of these models can be ordered directly from Fujitsu.

Toshiba Portege 3500

From Toshiba Canada, www.toshiba.ca
 Estimated price: \$2,100

Pro: Fast processor. Big screen. Integrated wireless networking. Competitive pricing. Competitively priced both C7 and S10s.
Con: No floppy or CD drive. Heavily battery hungry.

Other manufacturers have gone with reasonably modest Tablet PC configurations, but Toshiba's setting pace of that. The Portege 3500 is not up with enough processing power to do of desktop PCs (omitted a 1.33 GHz mobile Pentium III processor backed up with 256 MB of RAM [30 MB of which are

Continued on page 45

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The big and small of portable computing



Just when you thought that the personal computer market had run out of steam, there are mechanisms that it's about to reinvent itself in the secret labs of Silicon Valley. First let's give the surfers

credit patches the pink slip, on the cow side on the boxes, and merge the companies that market the last letter of the company name. The new PC is not just new because some marketeer says it's new—it's new because it is changing shape.

And these new processing machines are not your father's slab. Bulbous front boots are not going to use the day. What's going to win the computer war for the newly shaped computers is more different than thinking different.

First off, the desktop is all but dead and that's because we want to take our computers with us wherever we go and a huge box is not going to fit in pocket. However, there are two companies working away in the secret labs of Silicon Valley to achieve a pocket-sized computer. Now, I'm not talking Palm and Pocket PC here. That's yesterday's news. Tomorrow's computer is about the size of a trendy remanote novel.

I wandered over to San Mateo the other week to get a glimpse of this book-smaller future and there, in the shadow of Oracle's campus, was the little office in a low-shed complex with new engineers

working around it.

The company is called Tipt (tipt.com) and its pride and joy is the eightrite, a 300 g (20 in.) computer that runs a full version of Windows XP. The pocket computer—which looks like a 300 MHz BlackBerry on steroids—has a 300 MHz National Semiconductor Guide processor. It sports 256 MB of non-expandable memory, a 16 GB or 20 GB hard drive. It runs on a lithium ion battery that stores about four hours of power. It's got geeky guts and fashion screen appeal. The heathen computer comes in multiple colors like steel blue and burgundy.

What's cool about this new product is that it's a desktop computer replacement. It is highly portable and can be used autonomously away from the restraints of a desktop, thanks to an integrated thumb-driven keyboard and mouse stick. Plus it has an integrated 4-inch 10.4-inch LCD touch-screen capable of displaying more than 262,000 colors.

The device is named after the atomic weight of bismuth, the densest non-radioactive element. In the spirit of anti-product mistakes like Unix, it was designed and named by a bunch of Stanford University engineers. The machine's most desktop-like quality is that it runs a full version of Windows XP, yet it's a quarter of the size of an average laptop. To connect it to the world outside your pocket or purse, it has integrated PC Card and SD card slots and one USB port. The company wanted connection ubiquitous, so achieved integrated Bluetooth and Wi-Fi. The designers



Series laptop computer Tipt Tipt.



The little eightrite from Tipt.

argue that the consumer should make that decision and choose the connection

technology that fits them.

Tipt, which stands for Tipt the Quotient Technology, figures ultraportable, field workers, and ultramobile devices will be hot for the device. So that it can be used in the vast pen cities of North America, the device can attach to a monitor and keyboard, turning it into a full-fledged desktop computer. There's an onboard CD burner or floppy drive, but you could use an external one with you and connect it through the USB port.

I think it could revolutionize what we think of as a portable computer. It will be available next year, likely branded by a yet-to-be named mainstream computer company, at a price of around US\$1,000 to US\$1,500.

Of course, computer manufacturers are not all about small. Expect to see a new category of notebook computer called the desktop replacement. Like an aging supermodel, expect it to be heavier and more sophisticated. The weight of the pork-top is going to balloon to between 3.6 and 4.5 kg (8.5 and 10 lb.) and screens will be super-sized to 16-inch to 21-inch.

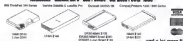
Features on these beasts will use they turn them into personal entertainment systems. They'll have CD or DVD drives, an MP3 player, and FM radio and TV tuners, along with high-quality speakers. Manufacturers will remove the keyboards and other outward rice, though perhaps those command-and-control devices will slip on when they need to travel.

The poorly portables will also be check

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full of new-fangled connectors like USB 2.0 ports (40 times faster than traditional USB ports) and IEEE-1394 ports. The latter, also called FireWire by Apple and dank by Sony, is now the standard way to transfer video between digital camcorders and computers.

The seemingly backward trend toward robust luggables will likely appeal to students and those who don't travel much with their gear, but want the option, without the need for heavy machinery.

"Their power will be equal to what you can do on your desktop today," explained Canadian Danny Lee, now, one of four directors responsible for worldwide research and development at

Toshiba.

They will also cost about the same as a desktop computer. The new machines will start to arrive in 2003 and become mainstream by 2005 or 2006—or so hopes the laptop maker.

One of the first to make good on this promise is the Xeonix Technologies (www.xeonix.com) Flip-Pad Voyager. This \$555,000 mobile computer is an address-book size of luggage: At 5.4 kg (12 lb.), including batteries and a fixed drive bay, the computer is going to lighten off the lap-glass check list, but attract mainly even who want big room to go.

The Voyager, currently powered by a

1.6 GHz AMD chip, has the same footprint as your average laptop but in perhaps three times as thick. Like high-tech organics it unfolds into a double-sized laptop with screens of keyboard and a touchpad. Here's the kicker though: the body has two LCD screens that flip up side by side to produce 21 inches of screen real estate. Xeonix has integrated controls to pre-installed copies of Microsoft Office and Windows XP (or 2000) for seamless and snappy positioning of windows between monitors.

One of the screens is also on a gimbal so it can both flip up and down as well as rotate by 350 degrees so two people sitting on opposite sides of a table can view

screen content. A future model may contain dual processors and have the ability for two people to work on the system at the same time.

Eventually, the Flip-Pad Voyager will work with an optional external keyboard, and perhaps dual processors. Then there's a stylus for electronic signatures and eventually—in future versions—a touch-screen function in fold-out mode, which, of course, will give it Tablet PC functionality.

In mobile computers, as it turns out, size does matter. □
Andy Walker recently moved from Toronto to California. He can be reached at andy@pdxweb.com.

Getting a grip on spam

Continued from page 29

instructions for spam reporting at www.spamcop.net.

• The anti-spam software that does not automatically dispose of messages, but that traps spam while at the same time offering an efficient way to reverse and select valid messages. Software that sorts by a filter's spam score, for example, when it reaches res-

ter to peek out valid email. Software that lets you create blacklists and whitelists of known spammers and forward you a log key to reducing your workload.

• If you live in jurisdictions that allow it locally, none in Canada do, take legal action against spammers. Technical means can help reduce the reliability and accuracy the cost of spamming, but a lawsuit really hurts a spammer.

Conclusions

Spam will always be with us, regardless of the technical tools or legal steps used to combat it. As content-scanners become more widespread, we'll see an arms race between scanner authors and spammers.

Content scanning, real time blacklists, and other technical measures will succeed in blocking most spam, and are worth implementing.

Leading-edge spammers will always be a step ahead, but the vast majority of unsophisticated, semi-literate spammers will be stopped cold. □

David Skoll is president of Itecing (itecing.com), the (www.itecing.com) creator of the open-source MIMEDefang email scanning software and Cast Spam (www.cast-spam.com), a commercial anti-spam and anti-virus solution. You can reach David at dskoll@itecing.com.

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Picture book documents history of computing

First and foremost, this is a picture book—a guide through the history of computers as seen through the camera lens.

The publisher, Taschen, is better known for books on the visual arts; typically on subjects like Impressionist painters, modern

architecture, modern art, and industrial design. But, whether you are looking for a good history of computational development or a trip down computer-memory lane, this provides a good, illustrated tour.

A few pages in, you realize this is not your typical book. The best accompanying

the numerous pictures is laid out vertically (parallel to the spine), so it has to be viewed sideways, like the centerfold of a magazine—something that might earn a few stars while reading it on the bus.

The text by Christian Wenzler offers an adequate history of the development of

computer systems, ranging from Charles Babbage's intricate difference engine to the latest in Web-surfing cell phones.

But the book really serves as background to the hundreds of pictures of computer systems that are the real heart of the

Continued on page 17

Blogging guide lacks detail

I knew I was in trouble when I noticed this often book was written by six people. *Essential Blogging* is the first book I've seen on the subject of Weblogs—or "blogs."

Web blogs, users essentially make the Web their own personal soapbox, spouting out on events and issues both personal and private. But while *Essential Blogging* covers the basics well, its scattered approach to the subject matter will disappoint those looking for something more in depth.

This book covers four types of blogging software: Blogger/Blogger Pro, Radio

thruken has the problem" so many programs are included that none gets the kind of detailed coverage users are likely to want.

I mean, would you buy a book that just looks at "word processing programs"? Instead of a more focused title like *Word or WordPerfect?*

At well, the quality between chapters varies, with different levels of coverage for each program—likely a result of the number of authors.

The basic structure of the book provides an introduction to each program, followed by a chapter detailing more advanced features. I use Blogger Pro for my blog

(www.zetron.com), and while this book provided me with a few new tricks, I don't think they were worth the price of admission.

The information on the other blogging programs was interesting, but I would have preferred a more in-depth look at the program I use—a complaint I suspect many of the other programs would also express.

Two truly useful chapters for \$47 isn't a bargain in anybody's book.

An OK start for what is undoubtedly a 1.0 version, though I'd wait for 2.0.

—Keith Schenck-Joberts



| | |
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| Blogging, Guide to the World of (2) | |
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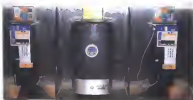
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Bell Canada launches free WiFi hot spots

By Jeff Evans

Canadian telco giant Bell Canada (bells.ca) is launching a new, free-of-charge test deployment of wireless high-speed Internet service in selected locations across Canada. At a Dec. 30 news conference at Toronto's venerable Union Station rail terminal, Terry Massey, president of Bell Canada, unveiled the new AccedeZone service proof of "Bell Canada's commitment to meeting the evolving needs of mobile professionals and business travelers who are becoming increasingly reliant on wireless technologies for high-speed Internet access while away from home or office."

According to Bell representatives, "seven or eight" prototype terminals have been built and put into service. These "hot spot" devices are about the same size and shape as a traditional public pay phone, connect to a high-speed (3 Mbps) DSL line, and contain a wireless



The company rushed to stake out its claim to public access WiFi at least in part as a response to a similar, \$6 million WiFi access program announced by its archrival Telus in early December 2002.

802.11 access point that can support up to 30 wireless PC or handheld computer users located within 9 to 30 ft. of the installation simultaneously.

The first group WiFi hotspot access points have been installed in a variety of locations across the country: Toronto's Union Station, the Via Rail Panorama

lounge in Montreal's Central Station, the departure area at Montreal's Dorval International Airport, Kingston's Confederation Park and Maroon, and Kingston's St. Lawrence College.

Other installations are planned or available at the Air Canada Maple Leaf Lounges (business class) at Pearson International Airport (Terminal 2), Dorval International Airport, and Calgary International Airport. Eventually they will be in all other Air Canada Maple Leaf Lounges. Other AccedeZone installations will be opened at Mount Sinai Hospital in Toronto and Frontenac Public Library in Kingston.

The first test phase will last until mid-March, according to Bell.

The company rushed to stake out its claim to public access WiFi at least in part as a response to a similar, \$6 million WiFi access program announced by its archrival Telus in early December 2002.

The two Canadian telcos grant both

Continued on page 88

Picture book documents history

Continued from page 66

For the historically minded, there are fascinating black-and-white pictures of earnest-looking scientists pouring over results from early machines like the Univas, Mark I, and the Whirlwind.

Enter the age of commercial computing, with the likes of IBM, DEC, and Honeywell, and you see how computers were originally marketed (few wonder how computers ever got their geeky reputation with all the pictures of lovely models draped over their keyboards in

the '60s).

Those who were around during the advent of the personal computer revolution will fondly remember the pictures of and advertisements for such classic machines as the IBM, Apple II, and MS-DOS, among others.

This book was simultaneously published in German and English. While you couldn't tell this by the quality of the translation (which is excellent), it does explain a curiously German-centric view on the development of computing history which contains more European references to the field—Karl Zuse's Z

machines, the British Sinclair computers—than you find in American histories about computers.

Sprinkled throughout are glimpses of how computers have been seen in popular culture: primarily from movies where computers played a role, like *WarGames*, or machines that played potentially lethal games in *Tron* and *WarGames*.

This book offers a fair pictorial sweep through computing history.

—Keith Schengill/Roberts

Computers: An Illustrated History
Authors: Clinton Walker
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www.taschen.com/
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NEW & NOTABLE

Bell Canada launches free WiFi hot spots

Continued from page A1
... a big market in public access WiFi hot spots. According to a November 2001 study by the U.S.-based Analytics research firm, up to 25 million people will make use of a projected 40,000 public WiFi hot spot access points by 2007, generating up to US\$8 billion in revenue for the phone companies. This figure could amount to US\$6.5 billion globally by 2007, if all forms of public Internet access services are included, with wireless local area networks making up the largest part of the worldwide services revenues.

When asked how much the service would cost after the end of the test period, Bell representatives were vague. However, a Bell email access terminal elsewhere in Union Station had a posted rate of \$2 for 10 minutes of Internet access time.

According to *l'Espresso* Canada's Doug

Cooper, as many as 30 percent of new laptops are being sold with WiFi capability. This figure could rise to 70 percent in 2004, and 90 percent in 2005, as Intel's WiFi technology, called *Itanium*, is built into notebook motherboards, making IEEE 11b networking inexpensive and universal.

Other companies are also getting into the public access wireless Internet game. Carfax shop giant Starbucks has deployed WiFi hotspots in a few hundred of its U.S. locations (point your browser to www.starbucks.com/intel/wifi.asp to locate Starbucks hotspots in major U.S. cities).

Even the Rolling Stones—currently on the road with their *Ferry Ficks* tour—are getting into the WiFi act: they are travelling the world with a portable WiFi network that enables the crew's 140 laptop users, including tech-savvy Mick Jagger, to have constant, efficient Internet connectivity. □

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Take a few Tablets

Continued from page 61

throughs could become a weakness out in the field: the larger screen, the faster processor and the integrated wireless are all features that will suck back battery power. It's easy enough to adjust your usage to minimize problems, though (by turning off the wireless component, for example), and the very fact that Toshiba is offering a very powerful version of the Tablet PC, for around the same price as the competition's more modest units, means there's nothing to worry about.

ViewSonic Tablet PC V1000

From ViewSonic Corp., www.viewsonic.com

Estimated cost: \$2,249

For a company's expense in display tech, Concept design included 15.8-keyboard integrated wireless networking.

Can. Model performance: Keyboard need be or not required. Small hard drive.

Though ViewSonic is definitely not one of the usual gang of suspects when it comes to computer manufacturing, it definitely must mean that the company is in the ground floor with Tablet PCs, as the firm is all about the screen, after all.

And it's not exactly a cold start, either.

Continued on page 34

| | Asus EeePC M300 | Apple iMac G4 | Apple iMac G4 | Apple iMac G4 | Apple iMac G4 |
|-----------------------------------|---------------------|-------------------|-------------------|-------------------|-------------------|
| Form | Tablet PC | Tablet PC | Tablet PC | Tablet PC | Tablet PC |
| OS | Windows XP | Mac OS X | Mac OS X | Mac OS X | Mac OS X |
| CPU (all Pentium-class) | Intel Core 2 Duo | Intel Core 2 Duo | Intel Core 2 Duo | Intel Core 2 Duo | Intel Core 2 Duo |
| Memory | 2GB | 2GB | 2GB | 2GB | 2GB |
| Hard drive (all) | 160 GB | 160 GB | 160 GB | 160 GB | 160 GB |
| Screen size (all) | 15.8" | 15.8" | 15.8" | 15.8" | 15.8" |
| USB ports | 2 | 2 | 2 | 2 | 2 |
| FireWire ports | 0 | 0 | 0 | 0 | 0 |
| Expansion slots | PC Card, Smart Card | PC Card | PC Card | PC Card | PC Card |
| Bluetooth module included | Yes | Yes | Yes | Yes | Yes |
| 802.11b wireless networking | Yes | Yes | Yes | Yes | Yes |
| Video | ATI Radeon | ATI Radeon | ATI Radeon | ATI Radeon | ATI Radeon |
| Input method | Style / Touchpad | Style / Touchpad | Style / Touchpad | Style / Touchpad | Style / Touchpad |
| External functionality on display | Yes | Yes | Yes | Yes | Yes |
| External peripherals included | CD, extra battery | CD, extra battery | CD, extra battery | CD, extra battery | CD, extra battery |
| Removable battery | Yes | Yes | Yes | Yes | Yes |
| Dimensions (WxDxH, mm) | 250 x 194 x 20.8 | 250 x 194 x 20.8 | 250 x 194 x 20.8 | 250 x 194 x 20.8 | 250 x 194 x 20.8 |
| Weight (kg) | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| Score: CPU Arithmetic benchmark | | | | | |
| Operation ALU (MIPS) | 2,950 | 2,950 | 2,950 | 2,950 | 2,950 |
| Operation FP (MIPS) | 1,875 | 1,875 | 1,875 | 1,875 | 1,875 |
| Score: CPU Multimedia benchmark | | | | | |
| Integer (MIPS) | 4,449 | 4,449 | 4,449 | 4,449 | 4,449 |
| Floating point (MIPS) | 3,569 | 3,569 | 3,569 | 3,569 | 3,569 |
| PCMark 2005 benchmark | | | | | |
| CPU | 2,530 | 2,530 | 2,530 | 2,530 | 2,530 |
| Memory | 1,844 | 1,844 | 1,844 | 1,844 | 1,844 |
| Hard drive | 215 | 215 | 215 | 215 | 215 |

*Non-standard pre-production model tested (see article)

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< NEW & NOTABLE >

The 2002 holiday shopping season: Online spending report

By Christine Walenski

According to the eSpending Report, a U.S. study conducted by Goldman Sachs Group, Harris Interactive and Nielsen/Nielson, spending online over the 2002 holiday season grew six percent since last year, not including travel. Consumers spent almost \$13.7 billion online, in comparison to \$11 billion total reached in the 2001 holiday season.

Those surveyed said they designated 15 percent of their holiday spending budgets to online purchases, in comparison to the 14 percent who said they had done so in 2001. The study found that the most popular time to shop online fell at opposite ends of the spectrum. Spending patterns revealed that most shopping was done either earlier in the season or the week before Christmas.

"With each holiday season, e-commerce becomes more of a mainstream activity," Brian Iversen-James, director of e-commerce research at Harris Interactive, said in a release.

Juniper Research has predicted similar growth. A study released by the organization forecasts that retail figures for the 2002 online holiday shopping season, to be released in March, will exceed the \$13.1 billion originally estimated—a 1.3 percent growth compared to 2001.

"Widespread free shipping promotions are the primary reason that the 2002 holiday shopping season was such a good one," said Ken Conner, senior analyst at Juniper Research, in a release.

Iversen-James also attributes the surging popularity of online shopping to an early November push by e-coupons for big discounts and free shipping.

Diapers, Indulgita, is one such example. Their holiday offer included free shipping for orders over \$36—with the post-holiday offer shoring the spending limit to a less appealing \$76.

She says the high volume of online purchases made right before Christmas are an indication that shoppers now feel more comfortable waiting until the last minute.

This also seems to be the case where the security of their financial transactions are concerned.

A J.D. Study conducted by the Consumer Internet Researcher revealed that Internet users have demonstrated increased levels of trust when making financial transactions online, compared to a year ago.

Over 33 percent feel their online financial transactions are safe, up from 27.5 percent last year. Also, one-fourth of those surveyed trust that their personal information is safe when purchasing products online, compared to around 22 percent a year ago.

Internet use also increased. Almost 42 percent of consumers go online at least once a month, up from 38 percent last year. Thirty-seven percent of users go online daily, an increase from 33.7 percent a year ago.

According to the eSpending Report, the most popular category for online purchases was books, music and video/DVD. Consumers spent over \$3.1 billion in these items. Compared with the 2001 online holiday shopping, this category saw a 40 percent increase. Also experiencing an increase, 36 percent more consumers shopped online for apparel—this category ranked second and saw \$2.7 billion in sales.

The fastest growing categories were toys and video games and consumer electronics—both experienced increased spending by more than 72 percent. Online consumers spent almost \$2 billion on consumer electronics and \$1.8 billion on toys and video games.

Spending across gender was relatively stable year-over-year. Fifty-one percent of online shoppers were women; 45 percent were men. This compared with an even 50/50 split in 2001.

Where age was concerned, the total online shopping population consisted of seven percent more, 18- to 24-year-olds since the 2001 holiday season. This category is the only one that experienced growth over the past year.

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AD INDEX

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Take a few tablets

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
Viewsonic earlier brought out tablet-style models under the ViewPad name, one running Windows CE and the other one using a full resolution of Windows 2000. The new data-format Tablet PC V1100 now makes it official, with a smaller form factor than the ViewPad 1000 and using Windows XP Tablet Edition. The V1100 features a compact design that's quite comfortable to hold. It has a clear 10.4-inch TFT screen, an 866 MHz Pentium III processor, and 256 MB of RAM.

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